THE CULTIVATOR:

A MONTHLY PUBLICATION, DEVOTED TO AGRICULTURE.

I KNOW OF NO PURSUIT IN WHICH MORE REAL AND IMPORTANT SERVICES CAN BE RENDERED TO ANY COUNTRY, THAN BY IMPROVING ITS AGRICULTURE.—*Wash.*

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THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

☞ **Advertising.** ☜

☞ At the request of many of our patrons, and to save the trouble of frequent inquiries, we propose to publish short advertisements in our last page, relating to farm stock, farm seeds, farm implements, &c. and to make up to our customers, at the end of the volume, by an extra sheet, the space occupied by advertisements. The terms of advertising will be one dollar for ten lines, or less, for each insertion, which will not be deemed extravagant for TWENTY THOUSAND impressions. Cash in advance.

The Debt of the Nation.

The *National Debt*, we believe, has been wholly paid off: but a new debt has since been created, by some of the states, of a greater amount than the national debt ever was According to the late Comptroller Flagg's tables, eighteen of the states have authorized a public stock, most of which has already been issued, and principally for canals, rail-roads and other internal improvements, of about *one hundred and seventy millions of dollars*, which is as much a mortgage upon our farms, as was the national debt. The interest upon this amount, which is ten or twelve millions annually, must be paid punctually, and the principal must be paid ultimately. And it is well to inquire, who owns this one hundred and seventy millions of stock? To whom are we paying ten millions of dollars annually as *interest?* Noi, we are sorry to say, to members of our national family, but to foreigners—who are at least aliens to our country, if not secretly hostile to its institutions and its prosperity. Most of the one hundred and seventy millions of American stocks, have been sold in Europe, to pay mercantile balances, or to provide the means of making improvements, many of which, instead of repaying the outlay, are likely for a long time to continue to be a drain upon the treasuries of the states which have made or are making them. It verily appears to us, that some of the states, and our own state among the rest, have become deeply infected with the spirit of wild speculation, which so lately caused distress and individual ruin to many in our land, impaired public confidence, and deranged the ordinary course of business;—and that the states, like the individuals, will learn, when too late, that prudence is the better part of wisdom.

No individual can truly exercise the volition of a freeman, who is deeply involved in debt. He has not always the power of willing and determining according to the dictates of his conscience, or his sense of right. He is, though perhaps sometimes unconscious of it, more or less subservient to the will of his creditor; because he feels conscious that the creditor can harass and harm him. Hence, a man with limited means, who is under no pecuniary obligations, is more independent, if not more honest in his intercourse with society, than he who nominally possesses great wealth, but who holds a portion of that wealth on the sufferance of others. Prudent fathers admonish their sons, as a cardinal rule of life, *to keep out of debt.* It is true that individuals sometimes bolt into fortunes, by an adventurous speculation—but they do not always find, when successful, what they seek—a contented enjoyment of it. But we all know there are ten blanks to a prize in this lottery.

Wherein does the case of the nation differ from that of an individual? A nation is a community of individuals; and what would be prudent in the management of a family, would seem to be prudent and politic in the management of a state or nation. The head of a family often finds it necessary to repress the wild extravagance of the sons and daughters; and where he does not do it, bankruptcy is sometimes the penalty of indulgence. And the managers of a state should exercise a like prudence. If they give way to all the wild schemes of personal aggrandizement, however plausibly concealed under the guise of public improvement, which are pressed upon their consideration, in the hope of either winning power, or winning fame, we think they will betray a great want of prudence, if not a want of principle. The policy of a state *should* be that of a discreet individual—a liberal outlay upon all objects within its legitimate sphere of business—and which promise at least an ultimate interest upon the capital expended. No one would commend, in an individual, an expenditure which should not only *not* return him interest, but which should constitute a lien, and cause a perpetual tax upon his posterity. Feeling none of the fever of party, we conscientiously declare our belief, that millions have been already expended by the state of New-York, or the responsibility of payment assumed, from considerations unworthy the enlightened patriot, which will not, in the present age, pay an interest; but, on the contrary, will operate as an annual drain upon our treasury; and that if this system is followed up—call it either the wild speculation of enthusiasts, or the mad and reckless ambition of party—or the cool calculation of statesmen—the state will soon be in the condition of the foolish farmer, who, to gratify the weak and selfish views of his children, has incurred a greater debt than he can pay—and who must toil hard to pay the interest on the mortgage which covers his farm.—Economy is as commendable in a state as it is in an individual; and though at the present time it may be fashionable with neither, and may subject to ridicule its advocates, it is nevertheless one of the most sterling republican virtues, essential alike to individual and to national independence. It is the parent of plenty, of contentment, and of happiness. It is always most safe to err on the side of prudence, if we do err at all—for error here may be corrected, but it can seldom be on the side of extravagance. Every legislator, before he incurs a new debt, should bear in mind that the state is already pledged for forty millions of dollars, and that the mortgages for its payment are mostly in the hands of foreign capitalists.

Our statute books, for the last few years, bring forcibly to mind Æsop's fable of the dog in charge of the butcher's tray, who, unable to defend it from the avidity of other curs, said—"Well, then, I may as well have my share of the meat," and fell to accordingly, crying, "Here it goes! there it goes!"

We insert the following, as matters of useful record. The data have been collected and compiled by the late Comptroller. The rapid accumulation of debt within the last five years cannot but strike the reader with astonishment; and if it is considered that the state of N. York is already pledged, to the amount of twenty or thirty millions, beyond her present debt to complete internal improvements already authorized; and that some of these improvements are not likely, for a long time to come, if ever, to pay for repairs, attendance, and the interest on the capital loaned—we say, when these matters are duly considered, it will require no argument of ours to show, that we are hastening to a dangerous crisis. Such reckless extravagance in an individual would be branded, by common consent, as the highth of folly, and as highly demoralizing to society.

Statement showing the amount of stocks issued, and authorized by law to be issued, by the several states named below, in each period of five years, from 1820 to '25, and from 1835 to '38.

STATES.	1820 to 1825.	1825 to 1830.	1830 to 1835.	1835 to 1838.	Total.
New-York,	* $6,372,781	$1,624,000	$2,304,979	$12,229,288	$22,531,048
Pennsylvania,	1,680,000	6,300,000	16,130,003	3,166,787	27,306,790
Massachusetts,				4,200,000	4,200,000
Maine,			554,976	6,648,033	11,492,980
Maryland,	57,947	576,889	4,210,311	4,132,700	6,319,950
Virginia,	† 1,030,000	460,000	686,500	4,000,000	5,560,000
South-Carolina,	†† 1,250,000	310,000			6,101,000
Ohio,		4,400,000	1,701,000	7,368,000	7,368,000
Kentucky,			600,000	11,000,000	11,600,000
Illinois,			1,890,000	10,000,000	11,890,000
Indiana,			500,000	6,648,000	7,148,000
Tennessee,			2,200,000	8,500,000	10,800,000
Alabama,		100,000		2,500,000	2,500,000
Missouri,			2,000,000	5,000,000	7,000,000
Mississippi,		1,300,000	7,335,000	14,600,000	23,735,000
Louisiana,				3,000,000	3,000,000
Arkansas,				5,340,000	5,340,000
Michigan,					
	$12,790,728	$13,679,889	$40,012,769	$108,423,808	$174,392,868

* Of the amount about 4 1-2 millions of dollars has been redeemed. † Virginia has a war debt of 3,413,139 17, contracted previous to 1820. †† South-Carolina has a revolutionary debt of $183,750 12.

The debts of the states have been created for the following objects, viz:

For banking,	$52,640,000
For canals,	60,201,551
For rail-roads,	42,871,084
For turnpikes and M'Adam roads,	6,618,958
For miscellaneous objects,	8,474,684
	$170,806,277

Root Culture.

V.—THE TURNIP.

The turnip culture, it has been remarked, effected as great and beneficial a revolution in British husbandry, as the introduction of the steam engine and spinning jenny effected in British manufactures. This crop has there proved a great source of wealth and fertility. It constitutes by far the greatest material for making beef and mutton, as well as for enriching, or keeping up, the fertility of the soil. From an experience of twenty years, in the culture and use of this root, we are persuaded it is destined to become the means of great improvement in American husbandry, when our farmers become more familiar with its culture and mode of preservation and feeding.

In the fourth number of our third volume, we gave particular directions for the cultivation of this root, with several illustrative cuts, and for preserving and feeding them to farm stock; and in our March number of the present volume, we have given an estimate of the product and value of the Swede, compared with other crops which we cultivate for feeding and fattening cattle. It would be superfluous, to repeat these details here, inasmuch as they may readily be referred to. Yet as we have many patrons who may not possess our third volume, we will give some brief directions.

The Swedish turnip, or ruta baga, has a manifest advantage over all other varieties of turnip, as cattle food, being the most nutritive in their properties, and retaining their soundness and richness much the longest. The common varieties, if drawn, as all turnips must be with us, become pithy, or spongy, before mid winter, and lose much of their value; while the Swede rather improves, by keeping, till February; and may be fed in a perfectly sound state till June. And it possesses one quality, not known, that we recollect, in any other root—that of increasing in nutricious matter with increase of size—the largest roots being specifically heaviest and richest.

The reverse of this happens with other roots, particularly with beets, those of medium, or diminutive size, being found to contain a much larger proportion of saccharine matter than very large ones. For table use, the early rock turnip may be sown in the garden, the common flat or green top for autumn and early winter, while the yellow Aberdeen should be chosen for late winter and spring use, being the best keeping variety, when the ruta baga is either not liked or not to be had.

All kinds of the turnip like a sandy and a dry soil; and the ruta baga, in particular, requires a rich one. We have been accustomed to raise the common varieties as a second crop, i. e. of sowing upon a grain stubble, with a single ploughing and harrowing, after the grain is harvested, from the 25th of July to the first of August, brushing or lightly harrowing in the seed. The plants must be thinned and cleaned with a hoe. They should not be left to stand nearer than six or eight inches. If sown broadcast, they yield more, and are of a more suitable size for the table than if raised in drills.

A grass ley is best for the Swede. If an old sod, it should be ploughed in autumn, or early in the spring; and it should be dunged and completely pulverised on the eve of being planted. If a young clover ley, the dung may be spread, ploughed under, the ground harrowed, and the seed immediately put in. We usually select the latter. We cut the clover by the 25th of June, and manure, plough and sow the crop within the ensuing seven days. The seed is generally sown with the drill-barrow, at the rate of a pound to two pounds an acre. It is preferable to sow thick, on account of the fly, and as the crop may be readily thinned when the plants are out of danger.

The turnip fly often commits great depredations upon the crop. This was particularly the case the last season. We cannot recommend any certain preventive. It has however been stated that mixing the seed with sulphur several days before it is to be sown, and then sowing the sulphur with the seed, has preserved the crop from the fly. If this is so, it is owing to the juices of the young plant becoming impregnated with the subtle properties of the sulphur, which is obnoxious to every species of insect. Another mode, which has been successfully tried, is that of collecting the weeds in piles around the field, when the seed is sown, and when the plants are coming up, to put brimstone and fire upon the piles on the windward border, which will continue burning, ordinarily, for some days, and the smoke of which expels or destroys the fly.

In the after culture of the Swede, there is great eco-

nomy in taking time by the forelop—in destroying the weeds while they are small. The cultivator or hoe should be passed through as soon as the rows can be well discerned, and as nigh to the plants as possible. One days' work is worth more in destroying small weeds than four days work is in destroying large ones, which overtop and choke the plants. The objects which should be aimed at, are to keep the crop clean, to thin the plants to eight or ten inches, and to keep the surface of the soil mellow. With a timely use of the cultivator, and repeated once or twice, these objects may be effected without great aid from the hand hoe.

The labor of harvesting the ruta baga is less than that of any other root, except perhaps the mangold wurzel; and indeed the remark will apply to the labor of culture without any qualification. Other root crops require attention nearly two months longer than this does, and at a season too when their growth is slow, and the labor consequently tedious and expensive.

The turnip should be the last crop gathered, because it grows the longest, is least liable to suffer from frost, and is most apt to be injured by fermentation, when collected in heaps for winter. If buried in pits, the roots should be raised above the surface of the ground, and laid up to terminate in a ridge—so that when they are covered with straw and earth, the heated or impure air of the pit will concentrate at the ridge on the top, where it should be suffered to pass off freely, through holes made for this purpose.

The cost of raising the ruta baga is less than that of raising corn, or any of the other roots. The average product may be stated at 600 bushels, and it is often double this quantity. The root is an excellent food for every species of farm stock, and is very extensively used for fattening both beef and mutton. Milch cows fed with ruta baga should have daily access to salt; and should the milk retain any flavor of the turnip, it may be got rid of by turning a pint of hot water into a pail full when it is drawn from the cow. Tops that are undergoing fermentation, and roots that have partly decayed or are unsound, should be given only to hogs.

THE TURNIP FLEA,

Is one of the greatest scourges to British husbandry. The Farmers' Magazine contains a learned article upon this insect (*Haltria rumorium*) giving us its natural history, and containing an examination also of the various remedies which have been recommended to prevent its destructive ravages, embracing the applications of lime, sulphur, soot, urine, fumigation, &c. Although these remedies, or some of them, are admitted to have had partial success; yet none of them, in the opinion of the writer, Mathew M. Milburn, can be depended upon with any degree of certainty. He thinks Mr. Poppy's plan of protecting the Swede valuable, which is to drill between the rows the common turnip, which the flea seems to prefer to the Swede, and when the latter has acquired the rough leaf to plough up the common turnip—yet he concludes by saying, that if attention is paid to the following particulars, he thinks the crop may be generally saved.

"1. Hasten the germination of the seed by all natural means as applying some portion of stimulating manure, sowing when a proper degree of moisture exists, and in close connexion with the manure, to secure to it at once the benefit of it to the roots, if possible, making most of the season when favorable.

"2. Sow a liberal quantity of seed, never less than three pounds, and sow it in drills, which will hasten the vegetation after it has come up.

"3. Clear the land perfectly, that no weeds may spring up to impede the growth of the plants, and give the soil a liberal supply of manure suited to its character.

"4. As a preventive, rid the soil by hand weeding, horse hoeing, &c. as much as possible of weeds.

"5. Select good seed, and test it before sowing, to see how many germinate, and in how little time."

Schools of Agriculture.

Propositions for establishing schools of practical and scientific instruction in agriculture, have been before the legislatures of Ohio and Kentucky, and we believe of Maryland, during the last winter, with what success, we are at the time of writing this unadvised; and the subject has been agitated in other states. In New-York, we have an act of incorporation for the establishment of such a school, and we only lack the liberality, we may say the patriotism, to put it into speedy and successful operation.

We ask our citizens of wealth, who are willing and desirous to do something for the future prosperity of the state, and we know there are many of this description, to give this subject a few moments consideration; to reflect upon the bearings which schools of this kind may have upon the industrial, the moral, the political, and the social institutions of their country—upon themselves and their posterity; and to decide whether they can render a greater good towards promoting these great objects of national and individual happiness, than in aiding in the establishment of these schools. They have sons whom they wish to see established in honorable and independent circumstances. What situation more honorable, or more independent, than that of an intelligent cultivator of the soil? At the meeting of the American Institute in 1837, the remark was made to us by two elderly gentlemen, one from New-Jersey and another from Albany, and at different times, that twenty years ago, they were acquainted with almost every importing dry good merchant in the city of New-York, and that now there was not half a dozen of them alive and in good business! A moment's reflection will satisfy the experienced, that the mercantile business of our country is overstocked; that it is deceptive, hazardous and dependent—because its success must depend upon the good will, and often upon the honesty, of others, and sometimes upon contingencies that are prejudicial to the country. Will you send your sons to the learned professions? The avenues to these are already choked with votaries—and it is not the sons of wealth who generally distinguish themselves here—poverty and want—self-dependence—are the great stimulants here to industry and success. And to make your sons merely gentlemen—to consign them to idle habits, or to make them the miserable dependants of official patronage, is the greatest disservice you can render them. It is a truth which few will deny, that most of the men of capital and of influence of the present day, are those who have from necessity been brought up to habits of business, and who have risen by their personal exertions; while many of the sons of affluence, from a lack of good early habits, have degenerated in property, in usefulness, and in character.

Further—every man is interested, deeply interested, in the general character of the society around him. If this is bad—if his neighbors are idle and ignorant, they are consequently poor, and are apt to be vicious. If they are intelligent and industrious, they are wealthy and respectable. Hence the importance to all, of rendering labor intelligent and productive. And the character and welfare of the state depend emphatically upon the character and welfare of the agricultural population. They are decidedly the primary source of our wealth, and the conservators of our republican habits and institutions.

Agricultural schools constitute one of the most important improvements of the age. They are calculated to make men industrious and useful, who would otherwise be idle and useless—to make those moral who might otherwise be immoral. Their tendency will be to improve society in various ways, without any apparent drawback to the benefits they promise to confer. And however slow we may be to adopt them, they *will* be established, they *will* be popular, and *will* yet largely contribute to IMPROVE THE SOIL AND THE MIND—to increase our wealth—to render us more independent, individually and nationally, and to beget a more enlarged, liberal and tolerant spirit in our people and in the administration of government.

Do we desire to make our sons lawyers, doctors or merchants, we feel the importance of placing them under *good masters*, who will teach them the principles and the practice of their business. Yet in husbandry, which involves more science than any other pursuit, which exhibits all the gradations in practice from very good to very bad,—and which is the great business of the state,—we seem not to care *who* teaches our sons, *how* they are taught, or indeed whether they are taught at all.

Having been invited to give our opinion as to what would be a suitable provision for an agricultural school, and as to the manner of conducting such a school, we shall answer the inquiries by giving an abstract of the report made in 1833, to the New-York State Agricultural Society, on this subject, and by stating some of the prominent features of the act to incorporate the New-York State Agricultural School.

The report commences by stating, that the main objects of an agricultural school are, to impart to this great branch of labor the efficient aids of science, and to furnish it with the best models of practice;—to teach, simultaneously, in the period of academic life, the practical operations of husbandry, and such branches of useful knowledge, as may tend to increase its products, and elevate its character,—or, in other words, the *objects* may be defined to be—*to make the man*—THE WHOLE MAN—THE USEFUL MAN.

To effect these objects, the plan should embrace—

1. A farm of sufficient extent to afford room for the diversified operations of tillage, cattle and sheep husbandry, and of orcharding and gardening, on a scale that will admit of a fair comparison being made of crops, of breeds of cattle and sheep, and of the varieties of hardy fruits; and sufficiently diversified in soil and surface to admit of satisfactory experiments:

2. A farm-house and farm buildings, which may serve as models of convenience, taste and economy, and accommodate the head farmer and his assistants:

3. A school building, to accommodate teachers and pupils:

4. A library and philosophical apparatus:

5. Stock and implements for the farm: and,

6. Shops for the construction of farm implements and machinery for the use of the farm, for the illustration of mechanical science, and to afford practical instruction to the pupils in mechanics.

The plan of education might embrace—

1. Practical instructions in all the various operations and labors of the farm, the garden, the orchards and the shops; and,

2. The study of the natural sciences generally, chemistry, the higher branches of mathematics, mechanics and drawing, so far as they may conduce or become subservient to agricultural improvement—together with such other branches of knowledge as will qualify the pupils for the higher duties of life—such as will fit them to become independent electors, discreet jurors, faithful magistrates, and wise and honest legislators.

As prerequisites to admission to the school, the pupils might be required to possess a good common school education, to be at least fourteen years old, and of good moral character. Four years might constitute a course of studies to make good farmers in practice—and gentlemen in intellect and manners. The police of the school might, in a measure, be conformed to that of our military school.

A department of the farm should be set apart for experiments in husbandry, and the details and results of these experiments should be accurately registered. The garden and the orchard should contain all the good hardy fruits, and specimens of all hardy plants, that may be useful on the farm, in the arts, in commerce, or that are ornamental—in order that the relative value of different species and varieties may be determined, and their mode of culture, and process of curing, taught to the pupils—and the approved kinds furnished for public distribution.

To put the school into operation, there will be required a principal, professors, teachers, a steward, &c. for the school; a first rate farmer and assistants for the farm; machinists for the shops; and a practical and scientific gardener for the garden and orchard.

The preliminary expenses, for the purchase of a farm of 400 acres, erecting the buildings, providing the library, apparatus, stock, furniture, &c. was estimated at $57,550; the annual expense, for the first year, including salaries of officers and others, and boarding 200 pupils, at $23,400—making an aggregate of $80,950. The income of the school, including the products of the farm, and the tuition and board of 200 pupils, at $150 per annum, was estimated at $34,000—thus giving an excess over the estimated annual expenditure, of $10,600—and showing, after making a liberal allowance for contingencies, &c. that the income would amply suffice to maintain and improve the school and farm, and to pay an interest upon the capital invested. The committee considered one hundred thousand dollars a sum adequate to the establishment of an agricultural school upon a broad and liberal scale, that will insure great benefit to the country, and a reasonable income to the proprietors.

The law incorporating the New-York State Agricultural School, authorizes a capital of $100,000, with liberty to increase it to $200,000. It contemplates a farm of four to five hundred acres of land, with suitable buildings, &c. It limits the dividends of the shareholders to five per cent per annum; and, in order to secure an efficient education in the practice, as well as in the theory, it requires, that during the eight summer months, the teachers and pupils shall devote at least one-half of the time to the practical business of the farm, the garden, or the shop.

In Ohio, an excellent spirit has been manifested.—Two individuals, we are informed by our correspondent, have offered donations of $5,000 each, and a great many have offered less sums, towards establishing such a school. In Kentucky it is proposed to raise money by loan, to establish such a school.

We believe the public mind is becoming fully satisfied of the utility of agricultural schools, not only as an efficient means of improving our agriculture, but as a means of fitting for usefulness, and for high public duties, a great many young men who have the misfortune to be born rich, and who are therefore in danger of dying poor, for want of some *respectable* employment, and an early instruction in its duties. Men of all classes in society, to whom we have broached the subject, *speak* in high commendation of the project, and profess a desire to educate their sons in such an institution.—Our late worthy fellow-citizen, James Caldwell, got up a subscription, on the event of a disastrous fire, for the relief of his fellow sufferers, he being a large sufferer himself. On presenting it for signatures, all expressed great sympathy, and were sincerely *sorry* for the distress of their neighbors. "*Sorry!*" exclaimed the philanthropist—"*how* MUCH *are you sorry?* Although myself a sufferer, *I am sorry for them* FIVE HUNDRED DOLLARS. Now please to write down *how many dollars* you are sorry." We would apply this anecdote to our school. If all who WISH it success, would DO a little—or would express their good wishes in *dollars*, the work would go bravely and speedily on. One hundred individuals, by a liberal combined effort, would not only merit, but would command success.

"It is said," remarks the Rev. W. E. Channing, in his lecture upon self-culture, "that any considerable education lifts men above their work, makes them look with disgust on their trades as mean and low, makes drudgery intolerable. I reply, that a man becomes interested in labor, just in proportion as the mind works with the hands. An enlightened farmer, who understands agricultural chemistry, the laws of vegetation, the structure of plants, the properties of manures, the influence of climate, who looks intelligently on his work, and brings his knowledge to bear on exigencies, is a much more cheerful, as well as a more dignified laborer, than the peasant, whose mind is akin to the clod on which he treads, and whose whole life is the same unthinking, unimproving toil. But this is not all. Why is it, I ask, that we call manual labor low, that we associate it with the idea of meanness, and think that intelligent people must scorn it? The great reason is, that, in most countries, so few intelligent people have been engaged in it. Once let cultivated men plough, and dig, and follow the commonest labors, and ploughing, digging and trades will cease to be mean. *It is the man who determines the dignity of the occupation, not the occupation which measures the dignity of the man.* * * * A man in the field seems to have more chance of improvement in his work, than a man behind the counter, or a man driving the quill. It is the sign of a narrow mind to imagine, as many seem to do, that there is a repugnance between the plain, coarse exterior of a laborer, and mental culture, especially the more refining culture. The laborer, under his dust and sweat, carries the grand elements of humanity, and he may put forth his highest powers. I doubt not there is as genuine enthusiasm, in the contemplation of nature, and in the perusal of the works of genius, under a homespun garb as under finery."

A matter of deep interest to the West.

It appears from the report of the Commissioners of the Canal Fund, of the current year, that there has been a *falling off*, in the last three years, in the amount of wheat and flour brought to tide water through our canals, independent of that coming from other states and territories, of *thirty-two thousand five hundred and thirty-six tons*, equivalent to *one million two hundred and fifty thousand bushels of wheat!* i. e. the surplus crop of West New-York, was one and a quarter million bushels less in 1838, than it was in 1835.

Whence this great diminution of product? Not from there having been less sown in 1837 than there was in 1834—for it is believed that the quantity sown in 1837 was at least one-tenth, if not one-fifth, greater than in 1834. This was caused by a larger amount of land being brought under culture, as well as from the high demand for this staple product. The deficiency was not owing to bad culture—for the culture, it is believed, has been gradually improving; nor to a bad season—that of 1838 being at least equal to those of ordinary occurrence; and although *a* grain worm, long known there, committed partial depredations, *the* grain worm which has for some years been the scourge of the east, does not seem to have reached our western borders.—The cause of the decrease is the same that has been operating, time out of mind, in the old settled districts of our country, and which has been travelling west—it is BAD HUSBANDRY—that *skinning system*, which takes all from the soil, and returns to it nothing.

We have often adverted to the fact, that wheat was once the great staple of East New-York; and that the district of country which formerly supplied our commercial capital with wheat and flour, extending one hundred miles north and west of Albany, does not now grow enough for its own consumption. The remark will apply with more or less truth to most of the old settled country east of the Allegany range of mountains.—Wheat is very much like our improved Short-Horn cattle;—it pays well under good treatment, but soon fails from lack of proper food. It is the first crop to betray bad husbandry—that indicates a deterioration of soil. A great portion of the Atlantic border was once as prolific in wheat, and as greatly extolled for its fertility, as the now famed west. But our ancestors followed up the exclusive *plough, pasture* and *meadow* system—made annual drafts upon the riches of the soil, without making deposites to meet them—till neither wheat, nor hardly any thing else valuable, would requite them for their labor. The same inconsiderate course, we fear, is fast exhausting the fertility of the west. Wheat being the most valuable product, it is repeated at intervals of one or two years, and often every year, till the soil, like a worn down ox, can do them no further service. Whereas, were the soil kindly dealt by—were wheat returned to it not oftener than once in four or five years—were manures faithfully applied, and suitable crops alternated—it would, like the well kept animal, improve with use, and be a blessing to coming generations. Wheat is one of the most exhausting crops that is cultivated upon the farm; it requires specific food, of which most soils possess but a small portion; and although it has been grown in successive years upon some, there are very few old cultivated lands which will give an undiminished crop, oftener than once in four or five years, under a good system of husbandry. The remark has been made to us by several gentlemen, that in the last few years, the product in wheat, at the west, has not been any thing like what was expected from the strength and appearance of the straw. In all primitive formations, great *straw* may be grown by making the land rich with dung; but the wheat, the good wheat, will be found lacking.

We will here again allude to a fact communicated to us by T. Burrall, Esq. Mr. B. manages an excellent wheat farm in the vicinity of Geneva; he has made and applied much manure, and is, withal, a very observing and intelligent agriculturist. He kept an accurate account of his wheat crops for twenty-one years after he began to clear up his farm. Dividing the twenty-one years into three equal periods, he told us that the average product of the first period was twenty-nine bushels of wheat the acre—of the second period twenty-five bushels, and of the third period but twenty bushels.—Mr. Burrall's error was probably the common one, that of recurring too often to the wheat crop. But this case will serve in a measure to explain the cause of the falling off of the wheat crop in West New-York, a million and a quarter of bushels, in the short period of three years.

The prospect before us, in regard to this great staple of our state, would be disheartening, but for the consideration, that we *can* do better than we have done—and for the determination, which we hear expressed on every side, that we *will* do better. We have seen, in our day, many farms and even districts, which would not grow wheat, and which were reduced to the verge of barrenness, so renovated and enriched, by the improved husbandry, as to yield, at proper intervals, crops of twenty, and thirty, and sometimes forty bushels of wheat to the acre, and other products in proportion. What *has* been done, *can* be done again, and *must* be done, even in the west, unless our western brethren will profit by our errors—and act upon the principle, that it is better to *preserve* than it is to *restore* fertility.

The fault of the western farmer, and it *was* the fault of the eastern farmer, is precisely that of the youth born to fortune. He finds himself surrounded, and he stops not to inquire either *how*, or for *what purpose*—with the means of gratifying his grosser appetites—his eating, drinking, idle and avaricious propensities—with a rich and fertile soil—and he dashes on to the gratification of these appetites, unmindful alike of his ultimate interest, and of his duty to posterity. Wheat! wheat!! wheat!!! is the grand desideratum—we may say his almost entire reliance, for wealth and happiness. Like the foolish shepherd, who endangers the life of his flock, by taking from them two clips in a season; or like the silk culturist, who would kill the tree to feed a second crop of silk worms—the western wheat farmer forgets that nature has her laws, which cannot be violated with impunity—and that a violation of them will lead alike to the death of the animal and the plant, and the impoverishment of the soil. So completely infatuated have most of the wheat farmers been, in all periods of the history of our country, with the prospects of present gain, that they have neglected, till impelled by necessity, those considerations of prudence and foresight, which must ever serve as the grand land-marks of good husbandry. What credit is due to the son of wealth who wastes and spends his paternal inheritance? What credit is due to the farmer, who exhausts the fertility of the soil—nature's patrimony to the human family—to subserve temporary gain? Moral turpitude attaches alike to both. They both pervert the manifest intentions of a beneficent Providence.

We have travelled in some of the wheat districts of the west, and we have noticed, with painful sensations, the general disregard there to the maxims of good husbandry. Man seems to be improvident in proportion as nature has been bountiful—to develop his foresight, his skill and his industry less, where he has the ten talents, than where only one talent has been given to him. With, to be sure, many honorable exceptions, little attention is paid, in the wheat districts, to alternate husbandry, to the rearing of cattle, and to the economy of manures—the true sources not only of agricultural wealth, but the only sure means of perpetuating the fertility of the soil.

We invite our readers of the now fertile west, to take a retrospective survey of the history of the land of their fathers—of the once fertile east—and of the east, too, which is itself now profiting from its past experience and past errors—to mark the progress of its soil in deterioration, and the causes of this deterioration—the errors of their fathers in the management of its soil—and to act upon the trite maxim—that "an ounce of prevention is worth a pound of cure." They *have* a rich soil, which, like the princely estate, may soon be wasted by extravagance and folly. Let them use it—let them preserve it—let them live upon the interest, without impairing the principal. Then may they truly say—*we are wiser than were our fathers.*

It is a good rule, and one that ought to prevail where local circumstances will permit, that manure enough shall be made by the farm stock, from the straw, stalks, hay, and other resources of the farm, to manure one-fourth of it annually. After a few years' culture of new lands, good arable crops cannot be calculated upon without manure. If we should see an occupant of a Dutchess county farm, which has been brought to a high state of fertility by a good system of husbandry, cropping his grounds continually, without applying manures or alternating with grass—until they were exhausted of fertility—we should think him a bad farmer, and many would consider him a bad man. And yet wherein would his case differ from the reckless farmer upon new rich lands. The fertility, in one case, is the gift of Providence; in the other, it has been restored by the prudent industry of man: in both cases it is annihilated by his selfishness or his folly, and in both cases are the community alike sufferers.

The late Gen. Humphreys, of Connecticut, speaking of the improvements in agriculture, which have stood the test of practical and scientific investigation, enumerates the following, which we beg to commend to the notice of all, whether on new or old land, who would *"thrive by the plough."*

"1. The system of farm-yard manure, wherein every decomposable matter, animal and vegetable, is stored, to be used on the fields in regular succession.

"2. The modern practice of using all manures as recently as possible. It is now well understood, that plants are nourished by the gases and juices formed during the gradual decomposition of manure, all which are lost in the old plan," of summer yarding.

"3. The practice of farm-yard feeding, and sheep-folding, connected with the turnip husbandry.

"4. In the substitution of fallow crops for fallows. It is true that fields are sometimes so foul with weeds that a fallow is necessary. In England, where a farmer is compelled to fallow a field, he lets the weeds grow into blossom, and then turns them down: in America, a fallow means a field where the produce is a crop of weeds *running to seed*, instead of a crop of grain.

"5. In the more spirited husbandry of turnips and potatoes [and beets,] for feeding cattle, and of carrots in sandy lands.

"6. In never permitting two grain crops to succeed each other. A fallow crop (that is, a horse hoed crop,) or a grass crop, always intervenes.

"7. In selecting for pastures and meadows, those nutritive grasses that do not destroy each other, and that spring up at the same season.

"8. In the great attention paid to agricultural machinery: to thrashing mills, to chaff-cutters, to drills and drill ploughs, to scarifiers, &c.

"9. In cultivating plants of obvious profit, as madder, weld, [woad,] &c."

We will only add, that when Gen. Humphreys wrote, 1812 or 1814, the improved system of draining was not practised, nor had the culture of the Swedish turnip, mangold wurzel, or sugar beet been introduced.

The Privileged Classes.

We have, in the United States, say the journals of the day, eighty-eight colleges, twelve law schools, ninety-six medical seminaries, thirty divinity schools, and somewhere about one thousand academies, more or less sustained by legislative bounty, for the almost exclusive benefit of the learned professions, which do not comprise, probably, one-twentieth part of our population. We have not a single college, seminary or school, for the particular improvement of the other 19-20ths of our population—the farmers and mechanics—who earn our wealth, pay our taxes, and fight our battles—although,—we speak it in the spirit of truth,—the country would be more benefitted, in its wealth, in its morals, and in its politics—far more benefitted—by extending to the laboring classes a higher standard of learning, in what especially concerns their business, than it is from the aid which it now gives to the non producing classes. It is a republican maxim, that all should participate alike in the public bounty. But the maxim has not as yet been adopted by our legislators.

It is not too late to plant Trees,

About the dwelling, or upon the farm. "The shade of trees is highly grateful to man, whether reposing under a single tree, or in a state of recreation under the shadow of a row, or in an avenue, grove or woodland path."—*Loudon.* "Shelter is not more useful in cold seasons, than the shade of trees is gratifying to cattle in hot ones. In an exposed open field, and under a burning sun, the torture which cattle often endure, is truly distressing."—*Lang.* "In a country so eminently favored as this, by the vast number of the beautiful and magnificent varieties of trees which embellish our forests, compared to those which are indigenous to Europe, it is not a little surprising, that a deeper interest has not been developed, for rendering them tributary to the health, comfort and pleasure of the people, by considering them as indispensable to the completeness of a country residence, and the public edifices, squares, grounds, and highways, as are any of the appendages which are deemed useful, ornamental or agreeable in either."—*Gen. Dearborn.* There is no man, who planted a single tree in his youth, which lives and thrives, but looks back to that act of his youth with pride and self-gratulation; and there is hardly one such that does not regret that he had not planted more.

Moisture, Air and Heat,

Are all indispensable to the germination of the seed, and to the preparation, in the soil, of the vegetable food; and, with the further aid of light, are alike indispensable to the growth and maturity of the plant. A great object of tillage, and of keeping the surface mellow in hoed crops, is to admit these agents freely into the soil. Organic or animal matter may remain insoluble for years, when buried in the soil, and deprived of one of these agents; and seeds may lay dormant for centuries, it is believed, when deprived of their agency. Hence the first rule in ploughing is to expose the greatest surface to atmospheric influence; and this is done, not by laying the furrow-slice flat, when only the upper surface is exposed, say ten inches, if the furrow is so broad, but by lapping the furrows on to each other, by which more than twenty inches are exposed to atmospheric influence; with this further advantage, that with the flat furrow, an excess of water stands upon and injures the soil, while every lapped furrow-slice forms a conduit for passing it off.

"Teaching by Example."

C. HARBIN, Esq. writes us from Mocksville, N. C. March 14, as follows:

"I am much pleased with the private letter published in the February number, from your Hartford correspondent, and think that much can and ought to be done in the way he suggests, by those who feel interested in the great work of agricultural improvement. I met with the same difficulty in recommending the reading of agricultural periodicals to a certain class of our farmers, who, although industrious, hard-working men, and possessing some degree of general intelligence, reject every thing in the shape of book-farming, and hang on to the good old way, as they call it. Such prejudices can only be removed by the perseverance and industry of those around such men, by a frequent interchange of opinions with them, and occasionally reading to them such articles as may be most likely to make a favorable impression, and as fast as possible induce them to take an agricultural paper; because whenever a man will begin to read, I think his prejudices will begin to totter, and finally fall to the ground. You may set me down as a gratuitous agent for your paper at this place, and I hope to reap my reward for the interest I have taken in the work, in seeing a gradual improvement among the farmers of my neighborhood. The mind must be very dark that rejects the whole of the light thrown out through the columns of the Cultivator, and the other periodicals now published upon the subject of agriculture; and I think that by continually knocking at the door, some light will finally enter, and ere long the whole become lighted up. *Enclosed is your subscription paper, upon which you will find forty-seven names!* for the sixth volume."

Cedar Quarries.

On asking a friend from Oswego, the other day, who used this term, what it meant, he informed us, that much of the cedar which comes from Lake Ontario, is absolutely *dug out of the soil.* On some of the islands in that lake, which furnish great quantities of this valuable timber, there has not been growing a single tree for many years. Generation has apparently succeeded generation of this timber, and fallen, and been successively covered with earth, and is now *dug* out for rail-roads, fence-posts, &c. in a perfectly sound state.

American Society for the Diffusion of Useful Knowledge.

We conclude, to-day, the answer of the Executive Committee of the American Society for the Diffusion of Useful Knowledge, to the charges brought against it by our New-Hampshire correspondent. We do not wish to be considered either a party or an umpire, in the controversy, and shall therefore leave our readers to draw their own conclusions. We objected to the library which the society had got up for common schools, not so much on account of its demerits, as from its deficiency in works of intrinsic value to an agricultural population. And we furthermore doubted the competency of exclusively literary, professional and mercantile men, however good their intentions, to make a proper selection of books, suited to the wants, the tastes and the improvement of an agricultural population; for however intrinsically good books may be, they will do no good except they are read; and they will seldom be read when they are adapted neither to the tastes nor interests of those into whose hands they are placed. Few professional or mercantile men take an interest in reading works upon agriculture and rural economy. They, of course, are not competent judges of such works, and the society has, perhaps, acted wisely in omitting them altogether in their selection. The laboring community feel a like indifference to works of mere literature and taste. They would remark as an excellent farmer once did to us, when walking through our flower garden—"What are all these things good for? You can neither eat nor drink them, nor sell them for money." Men must acquire a taste for the flowers of literature, as well as for the flowers of nature, before they will admire or cultivate them. We must propitiate the husbandman, by teaching him how to increase the profits of his farm, before we can persuade him to devote his time to the embellishment of his garden. There is a natural gradation in these matters, and unless we begin right, with what is most likely to become useful as well as agreeable, we shall fail in our object. And as to the apology which is made for acknowledged deficiencies, while it may exonorate the managers from blame in the selection, it abates nothing of its faults. There was no obligation on the part of the society to get up a library, any more than there was in any other society, or individual. It was altogether a voluntary matter; and our regret, and we fear the public misfortune is, that it did volunteer, with the slender means, and precipitate hurry, which are urged in its excuse.

After attentively examining the defence, we are disposed to accord to the gentlemen managers of the society, an honest intention of doing a public service; yet we must question whether they have been successful to the extent which the name and character of the society led the public to expect.

One circumstance will not fail to excite surprise, and that is, that although we are furnished with the names of ninety-six officers, who have either positively or tacitly consented to bear the honors conferred upon them, to say nothing of the ordinary members of the society—we say, that notwithstanding the ninety-six officers—the wonder is, that only *twenty-five* individuals seem to have contributed any thing to the funds of the society! and that but *fourteen* of these have apparently contributed any thing more than the initiating fee!! We do not notice this to disparage the services of the few gentlemen who have devoted their means and their time to the professed philanthropic objects of the institution; but to mark the indifference which the American public manifest towards an institution which *might*, under proper encouragement and support, be of invaluable service to our country. It is a problem which remains to be solved, whether under existing circumstances, it will be easier to *mend* the old, or to *make* a new society.

We have been inadvertently drawn into the discussion of this matter, from a desire to fulfil a duty to our agricultural patrons. It has taken a turn which we did not anticipate, foreign to the objects of our paper. We have published the charges and the defence, and must decline any further notice of the controversy.

Mr. Weld's Manual Labor Report.

This report, drawn up by Thos. D. Weld, agent for the Society for promoting Manual Labor in Literary Institutions, contains a number of interesting facts and testimonies on the subject of manual labor, *when applied to literary institutions;* not as affording instruction in the business which the pupil is to follow for a livelihood—for life—but as a means of promoting physical health, moral health—and as having a salutary influence in developing the powers of the mind. In this case, it will be seen, the physical and mental powers do not act reciprocally. The mind is benefitted by the manual labor of the body; but it does not give back, to productive labor, aught that can simplify its operations, increase its profits, elevate its character, or multiply its enjoyments—because the object of the pupil is, not to learn to live *by* labor, in the common sense of the term, but to live *without* labor—to gain health and vigor of intellect, without gaining a knowledge of the arts of labor, with the view of making them the pursuit of life.

We beg the reader to bear these facts in mind, while he reads the extracts which follow; and to consider, with how much greater force they would apply in a school of theoretical and practical agriculture—where the study and labor would not only be directed to a common point—to the intended business of the pupil for life—but where study would instruct and lighten labor, and labor illustrate and enrich study. Theory and practice, in the learned professions—in the manufacturing and mechanic arts, are reciprocal aids, and agreeable companions. They call into action, when thus blended, our highest powers; they awaken the deepest interest; they excite the purest pleasures; they produce the most beneficial results. Who will say, that all these happy influences would not be realized in a school of agriculture, where the field of observation and improvement is illimitable, and where the object of study and of labor, is emphatically, to augment the happiness of the great human family? They *would* be realized. The experiment has been made, and has succeeded; and other countries, which, from political and contracted considerations, we are accustomed to consider below us in the scale of civilization, are reaping the benefits of these institutions; while we, who claim to be the most free and enlightened people upon the globe, are reposing in ignoble apathy—and striving, not who can, or will, do the most to promote the common weal—but who can do the most to promote his own interest, regardless of the common weal.

By the introduction of manual labor into literary schools, Mr. Weld contends:

"1. *The student would be kept busy.* In the present system, there are three or four hours in all our institutions, during which the student is set free from all requisitions. He has *nothing to do.* Then, if universal experience proves any thing, he stands upon slippery places. It was when the unclean spirit had found the house *empty*, that he introduced seven other spirits fouler than himself. Let any man visit our literary institutions, and take an inventory of facts upon this subject, and he will be convinced that hours of idleness are a gift to the student, originating in very questionable benevolence. In fine, modern education, by throwing into the hands of youth a number of vacant hours each day, *holds out a premium to insubordination*, and practically legalizes those innumerable devices of mischief, indecency, and outrage, which abound in our literary institutions. Instead of surrounding the forming character with bulwarks of defence, it opens a thousand avenues of access, and surrenders the individual to indiscriminate assault. Yea, more; it furnishes temptation with a passport to its victim, smooths the way for it, beckons it onward, and by refusing to make those requisitions which would keep it at bay, becomes its endorser, appears as its apologist and its advocate, and pleads for justification of the ruin it produces. Whereas, if this defect in the existing order of things should give place to a regulation which would fill up with suitable exercise those hours of idleness so perilous to the student, he would be kept 'out of harm's way.'

2. Sufficient exercise would be a preventive of moral evils *by supplying that demand for vivid sensation so characteristic of youth*, whose clamors for indulgence drive multitudes to licentious indulgence, or to ardent spirits, tobacco, and other unnatural stimulants. It would preserve the equilibrium of the system, moderate the inordinate demands of animal excitability, and quell the insurrection of appetite.

3. Sufficient exercise would operate as a preventive of moral evils, by removing those *causes* of irritability, jealousy, fickleness, and depression of spirits, which are found in an unhealthful state of the system. In corroboration of these views, permit me to introduce the following testimony.

'The most effectual security against external and internal causes of corruption, is *constant occupation*; and without this, *no system of discipline can be efficient.* * * * And it is especially important, while the character is yet unformed, and the appetites and passions yet unaccustomed to submission and self-denial.'—*Annals of Education.*

'Industry is the great moralizer of man. The *great art of education*, therefore, consists in knowing how to occupy *every moment in well directed and useful activity of the youthful powers.*'—*Fellenberg.*

'The declaration is as trite as it is true, that *exercise promotes virtue, and subdues the storms of passion.*'—*Dr. Harris of Philadelphia, on Physical Culture.*

'Labor of all kinds favors and facilitates the practice of virtue.'—*Dr. Rush.*

'Make men work, and you will make them honest.'—*John Howard.*

I. *The manual labor system furnishes exercise natural to man.*

That agricultural and mechanical employments are natural to man, is an obvious inference from the arrangements of Providence. God designs that the human race generally should engage in these employments. He has placed men in circumstances which require it; and are those kinds of exercise for which infinite wisdom designed the human system, *ill adapted* to that system? Can human ingenuity devise an *artificial* system, better adapted to the necessities of man than that which God has prescribed?

'*Manual labor*, has in my opinion, decided advantages over *gymnastic exercises.* In addition to the superior moral influence which it is calculated to exert, the *kind* of exercise is better adapted to promote the healthy and vigorous action of the system.'—*Dr. Brown, late Physician to the N. Y. Hospital.*

'It appears, I think, from principle, as well as experience, that horticulture and agriculture are better fitted for the promotion of health and sound morals, than any other human occupation.'—*Dr. Caldwell, Professor Med. Depart., Transylvania University, Ky.*

II. *It furnishes exercise adapted to interest the mind.*

Agricultural exercise, and various mechanical employments interest the mind of the student,

1. By presenting a variety of objects to allure his attention.

2. By the successive changes effected in these objects *by his own efforts*, and the different forms which they continually assume under his hand, as the work goes on.

3. By the exercise of ingenuity, tact, and skill which they demand.

4. By the associating idea of their *usefulness*, not merely to himself, but to his country, and the whole family of man, in multiplying the comforts and conveniences of life; in promoting practical habits, and giving countenance to industry.

'No mode of exercise can in ordinary cases be compared, either as to profit or pleasure, with some kind of *efficient labor.*'—*Rev. Dr. Woods, Andover Theol. Sem.*

'If two or three hours ought to be spent in healthful exercise, why not employ those hours in the pleasant occupation of horticulture, agriculture, or mechanics.'—*Rev. Dr. Alexander, Princeton Theol. Sem.*

'I am equally convinced, that *manual labor* of some kind, is *peculiarly* adapted to this end,'—[for the purposes of exercise.]—*Professor Goodrich, Yale College.*

III. *Its moral effect would be peculiarly happy.*

IV. *It would furnish the student with important practical acquisitions.*

A practical acquaintance with agriculture and gardening, with some knowledge of mechanical employments, and skill in the use of tools, are accomplishments more than convenient to every man, whatever his station in life; accomplishments befitting the nature of our government, and the character of a republican people.

'Who would not wish for the capacity to help himself, on a thousand little occasions, at home and abroad, when a familiar acquaintance with the use of common mechanical implements, would enable him to avoid those many vexations which are wont to arise from the absence of mechanics, and their want of punctuality; which are so precisely suited to annoy the very persons, who take the least care to provide against them.'—*President Humphreys, St. John's College, Annapolis, Md.*

V. *It would promote habits of industry.*

Habit is formed by the repetition of single acts. To be constantly employed is to be forming a habit of industry.—*Constant occupation is the peculiarity of the manual labor system.*

VI. *It would promote independence of character.*

Exercise is the universal law of improvement for the faculties of the mind, as well as the powers of the body. If the memory is to be improved, it must be exercised. If scope is to be given to the imagination, stability to the judgment, and energy to the reasoning powers, the object can be accomplished only by the exercise of the several powers. Giving, enlarges benevolence; daring, increases courage; enduring, augments fortitude; and *self reliance promotes independence.*

Independence is an intelligent reliance upon one's own resources. If we would develop this principle, we must call it into action; and how shall it be called into action, except by creating a *necessity* for its action by throwing the individual upon his own resources; thus not only developing, but multiplying them? That system, then, by which the student can support himself with the least amount of aid from others, is manifestly better calculated than any other to promote independence of character. This, the manual labor system accomplishes.

When will a child learn to walk if it is never set upon its feet? He who bears all his weight upon others is in a fair way to become a cripple; and he must either lose his legs, or throw away his crutches.*

VII. *It would promote originality.*

The student who has been accustomed for years to tax his own resources for the supply of his wants, has formed a habit of inestimable value to his *mind.* Habituated to resort to himself for the means of his own support, he would be far more likely to construct his *intellectual* fabrics from the materials of his own producing. Instead of being a petty retailer of other men's wares, he would have a wholesale manufactory of his own. Let a demand be made upon such a man for thought, and instead of applying to his library for aid, and fumbling over every thing, from a commentary to a catechism, he will dig in the depths of his own mine, coin the metal in his own mint, and stamp it with his own image and superscription.

VIII. *It is adapted to render permanent all the manlier features of character.*

A system of seclusion, inactivity, idleness, and dependence, has a tendency to weaken the strong points of the character, and render it sickly and effeminate.

On the other hand, a system requiring activity, industry, exposure, energetic action, and self reliance, incorporates into the still forming character, the elements of firmness, decision, perseverance, courage, constancy, and generous self-sacrifice. It produces a commodity which the exigencies of our own age call for with deafening clamor, but which is a scarcity in the modern market—*manhood, full grown manhood.*†

IX. *It would afford facilities to the student in acquiring a knowledge of human nature.*

Whoever would understand human nature, must lay bare the springs of human action; the pulsations of the naked heart must be seen. The natural successions of thought and feeling must be marked as they come and go, and these lessons must be conned often and long, if he would be more than a mere smatterer in the science of human character. But how is the student to witness these exhibitions? Students generally are introduced into the higher classes of society, as they are called; and they will hardly get a glimpse at them there; where etiquette is law, actions are measured by rule, and the heart studiously covered up. The middling and lower classes of society, which are not wrapped up in the innumerable folds of ceremony, nor entangled in the endless meshes of fashionable forms, furnish the best text book in the science of the heart. But how shall the student narrow down the distance between the learned and the laboring classes, and thus get sufficiently near the latter to see them as they are? He may mingle with them a lifetime, but if he cannot make them *feel at home with him*, he can never see that unobstructed flow of thought and feeling which constitutes nature. He must first remove that instinctive aversion and prejudice which keep them from him; and these cannot be done away effectually, except by removing the causes which produce and perpetuate them; and the *main* cause is total dissimilarity in habits and mode of life. *Similarity of habits* strikes a common level, produces familiarity of intercourse, establishes a bond of union, and excites a feeling of mutual interest.

Let our students put on a working dress, and spend three hours a day in agricultural or mechanical employment, and they would disarm the laboring man of his prejudices, and beckon him toward them. That discontent, jealousy, envy, disgust, and those heart-burnings, which keep in a ferment the laboring classes in the vicinity of our higher seminaries,

* "I cannot here omit particularly noticing, a quality of the manly character which our effeminate education is continually rendering more scarce. This is a certain wise confidence in our own powers, which prevents us from crying out for help, or falling into despair on every trifling occasion—a quality which must be at the bottom of every great or little enterprise, and which is indispensably necessary to enable us as men and citizens, to preserve a certain independence."—*Sulzman.*

† "In a word, industrious habits of daily labor will metamorphose a book-worm into a *man*; a man prompt and ready for all emergencies.—*a man of the nineteenth century.*"—*Professor Staughton, Med. Col. Ohio.*

would give place to kindlier feelings. These classes would become approachable—a brotherhood would be established—and the student would enjoy a variety of facilities for acquiring a knowledge of men as they are, which would otherwise be denied him.

X. *It would greatly diminish the expense of education.*

XI. *It would increase the wealth of the country.*

Such a system would enable the sons of our farmers and mechanics, to acquire a thorough knowledge of those branches of science whose *practical application* to agricultural and the mechanic arts, would greatly increase both in quantity and quality the productions of the soil, and enhance the value of mechanical products. The benefits resulting to the *farming interest especially*, from a thorough acquaintance with the sciences of chemistry and geology, are little appreciated in comparison with their practical importance.

The system would increase the wealth of the country in another respect. In our academies, high schools, colleges, and professional seminaries, there are not far from thirty thousand youths. Let each of these fill up three hours a day with productive labor, and he makes no inconsiderable contribution to the resources of his country. He multiplies the means of subsistence, and augments the common stock of conveniences and comforts. These thirty thousand, by laboring three hours per day, would furnish an addition to the productive labor, and of course to the wealth of the country, equal to the labor of at least five thousand working men, who should labor ten hours per day. Besides this, the manual labor system would increase the wealth of the country, by contributing to its *health* and *muscle*, and no less to its *mind*.

XII. *It would tend to do away those absurd distinctions in society, which make the occupation of an individual the standard of his worth.*

Let the contents of our sixty colleges, and fifty professional seminaries, with a thousand academies and high schools, pour themselves into our fields and workshops, and there, for three hours each day, ply the implements of agriculture and the mechanic arts, would it not have a powerful tendency to render labor honorable, and the laboring man more respected?—Would it not create sympathies between the learned and the laboring classes, a permanent community of feeling, and identity of interests?

The thousand repulsions arising from dissimilarity of habits, which have so long operated to estrange them from each other, cease with the causes which produced them. Instead of being driven asunder by jealousies, and smothered animosities, they approach each other with looks of kindness, and form a compact, based upon republican equality, and the interchange of mutual offices of courtesy and kindness. He who does not perceive in such a system a tendency to these results, has mingled little with men; and however profound in other things, is a novice in human nature.

XIII. *It would have a tendency to render permanent our republican institutions.*

This would be the result of such a state of society, as has just been noticed. The elementary principles of republicanism are equality and reciprocity, its basis industry, economy, practical habits, general intelligence, and morality. We have seen that the connection of manual labor with study is calculated to produce these effects, and consequently to perpetuate our republican institutions."

A Compliment to our Correspondents.

The two hundred correspondents, who have given a value to the Cultivator, cannot but feel deservedly flattered by the following, which we quote from a letter, dated

"*Nashville, Tenn. March* 4.

"I have, independent of the $70 above, placed in the hands of Messrs. Trabene & West, 15 or 20 dollars, since they consented to become agents for the Cultivator. When the merit of the work was unknown in this section of country, I found it difficult to get an agent for the work; *but things have vastly altered.* I have no doubt, and I feel fully warranted in saying, that the circulation of the Cultivator, in middle Tennessee, has done more to improve our agriculture within the short space of eighteen months, than eighteen years would have done without it."

The compliment and invitation which are subjoined, by the writer, to the conductor, are very gratefully received, and the latter will be accepted, as soon as circumstances will permit.

A Comparison.

By comparing matters that are rather abstruse, with objects that are familiar with our senses, we often bring home to the understanding, truths of much practical benefit. The farmer who profits nothing from the better practice of his neighbor, but depends solely upon his personal experience, may be compared to the isolated spring, which bubbles from the earth always the same. The farmer of more enlarged mind, who sees and adopts the better practises of his neighborhood, may be likened to the brook, made up of the waters of several springs and which propels the water-wheel of the manufacturer. While the farmer who combines science with practice—who profits from all the improvements of our land, and of other lands, may be likened to the noble Hudson, which is fed from ten thousand fountains, and which bears upon its bosom the riches of every clime. Let those who consider the comparison bordering on the extravagant, contrast the powers and usefulness of a Fellenbergh or a Thaer, of a Chaptal or a Davy, of a Sinclair or a Coke, whose labors are adding millions annually to the products of the soil, to the drivelling ignoramus, who is delving in conceited ignorance, exhausting those riches of the soil, which Providence designed for his posterity.

The Corn Laws of Great Britain,

Are often spoken of in the public journals, without their object, or their operation at home or abroad, being generally understood by the American reader. The better to illustrate the matter, for it is a question which, if our agriculture ever reaches the state of improvement which it ought to reach, that may deeply concern Americans as well as Britons, it is proper to premise, that the farmers in Great Britain are not generally the proprietors of the land which they improve, but merely tenants to the nobility and gentry, who are the land owners. The rates of rent depend materially upon the ability of the farmer to pay; and this ability depends upon the price of grain in the market; the higher the price the better ordinarily for both landlord and tenant. Leases are given for different terms, often for twenty-one years; and if the improved condition of the farm and the price of grain will warrant it, the rents are raised at every renewal of the lease. To protect these two classes, or rather the first of them, or in other words, to secure a home demand, and a good price for the products of British husbandry, free from foreign competition, the corn laws impose a heavy duty upon foreign grain coming into British ports, so great as to amount to a prohibition, except in times of great scarcity, when the average price in market is sixty and seventy shillings the quarter of eight bushels. Were foreign grain admitted free, or by paying a nominal duty, prices would fall, and rents would have to come down, or the farmers be ruined. This explains the reason why the northern products of American agriculture are virtually excluded from British ports.

The continental powers of Europe have greatly increased the products of their agriculture, since the establishment of a general peace; and finding that these products will not be received on fair terms for British manufactures, they have been for some years turning their attention to the manufacture of their own goods. The consequence has been, that the demand for British merchandize has been constantly lessening in these countries, until the manufacturers, and a portion of the merchants, have become seriously cramped and alarmed; and meetings are now being held in all the manufacturing districts, to petition for a repeal of the corn laws.

On the one hand it is alleged, that if the corn laws are repeapled, and foreign corn admitted free of duty, English farmers, burthened as they are with heavy rents, tithes and taxes, can never sustain a foreign competition; that prices will consequently fall; that rents must come down; that the land holders and tenantry must consequently suffer severely; that the culture of poorer lands must be given up and abandoned; that the farm laborers, unable to obtain employment at prices by which they can live, will be reduced to want and misery; and that ultimately every class will be seriously injured.

The merchants and manufacturers, on the other hand, contend, that a reciprocity of trade can only secure the custom of foreign nations; that many of the manufactures have been stopped, the workmen thrown out of employ, and reduced to want; that the corn laws operate in favor of the land owner, at the expense of the merchant and manufacturer, the great supporters of British power, and the great sources of British wealth.

At our last dates matters were assuming a serious, if not an alarming aspect. Lord Melbourne, the premier, had declared in the House of Lords, that it would be the wildest and maddest scheme imaginable, to leave the agricultural interest unprotected; and in both houses, ministers oppose the repeal of the corn laws, and are supported by heavy majorities. In the mean time a radical convention was sitting in London, of which O'Connell and the Rev. Mr. Wade were active members. In reference to the determination of the government not to repeal the corn laws, and the strengthening of the military power of the throne, the convention recommend a rural police,—every man to go armed with a bludgeon, and to resist any attack on his person, &c. The Woburn, or Duke of Bedford's estate, is pointed out as among the spoils to be divided, if the landlords and capitalists, who are denounced, as "robbers, traitors and murderers," do not yield to the people—that they ought to be pursued by fire and sword, &c. All Yorkshire is said to be actually armed.

This state of things in England should admonish us, sedulously to protect our own resources, the agricultural and manufacturing labor of our country, and to avoid those enormous burthens upon agriculture, which there have become necessary, to pay the interest on an immense national debt, and to maintain, in idle extravagance, a privileged nobility, and a host of sinecure pensioners.

Wire Ropes.

It will be remembered, that many lives were lost during the last year, by the tiller-ropes of steam-boats being burnt off, when the boats have taken fire, thus leaving the boat and its passengers at the mercy of the stream and the fire, without the means of running the boat on shore. Samples of wire tiller-ropes for steam-boats, and also of wire tow-ropes for canal boats, have been left for examination at the Cultivator office, patented by J. McCord, of Harrisburgh, Pa. The tiller-ropes are already in extensive use in steam-boats on the Mississippi and Ohio; are three-eighths of an inch in diameter; have two strands of one hundred wires each, and, when submitted to a white heat, and cooled instantly in water, are as pliable as a hempen rope. The other sample is one-quarter of an inch in diameter, and has three strands, embracing one hundred and twenty wires. The larger kind is sold at twenty-eight cents, and the smaller at twenty cents per foot. We consider this a useful invention, calculated alike to economize expense and to preserve human life.

G. Farnham, No. 7 West-street, New-York, is agent for the patentee.

Items of Intelligence.

"Nothing," says Sir H. Davy, "is more wanted in agriculture, than experiments in which all the circumstances are minutely and scientifically detailed—this art will then advance in proportion as it becomes exact in its methods."

A Steam Threshing Mill has been put in operation in Switzerland. The machine is a five-horse power, and portable. It may be set at the barn-door. A few quarts of coal suffices for half a day. It requires but two men to tend it; and their work is equal to the labor of ten men with flails.

The state of Maine paid a bounty last year, of $87,352.39, on 1,107,849 bushels of wheat raised in that state; and $66,628.80, on 1,630,996 bushels of Indian corn—making an aggregate of $153,981, paid in one year, "to encourage agriculture."

THE BUDGET.

Under this head, we shall hereafter notice such correspondence as our limits will not permit us to give in detail, and such as requires to be noticed in a summary way. We have considerably increased the contents of our sheet, by the use of small type, yet our correspondence has been so enlarged as to compel us to condense some portion of it.

DWARF BLUE IMPERIAL PEA.

JOSEPH KELLOGG, of Holland Patent, Oneida, a veteran of 72, has sent us an account of the field culture of a remarkable large blue garden pea, which he believes to be the dwarf blue imperial, and which he highly recommends. Mr. Kellogg received a handful of these peas in 1834, which were then selling at $6 per bushel; from this small beginning, he was enabled to raise, last year, twenty-four bushels of extraordinary beauty, and perfectly free from the bug. Mr. K. considers the pea as the best preparatory crop for wheat. In locations where the pea bug does not prevail, and on suitable soils—and clay loams and clays are the best—the field culture of garden peas, for seedsmen, may be made a lucrative concern. At present, most of the garden peas sold in the shops are imported, and sell at high prices.

APPLE ORCHARDS.

PHILO MIX, of Waterbury, Conn. has sent us an interesting communication, recommending the attention of the young farmer to the cultivation of orchards, for farm stock and for family use. Mr. Mix remarks, that the old orchards in Connecticut have most of them died from old age, and that very little effort has been made for many years to replace them. Our correspondent seems to have been long familiar with the propagation, transplanting and management of fruit trees. He urges the importance of care in taking up trees, so as to preserve the fibrous roots—the mouths; and of making large holes to set the trees in, that the roots may have their natural position; of surrounding the roots with fine surface mould; of pressing the earth firmly round them, and of spreading upon the surface, around the tree, some litter or coarse dung, to counteract evaporation, to protect them from the cold of winter, and to prevent the growth of grass. Mr. Mix prefers autumn planting, and that the orchard be tilled two or three years, taking care, however, not to cut or bruise the roots or the stem in the operations of tillage. Mr. M.'s directions are all proper and beneficial.

REMEDY AGAINST THE BLACK ANT.

JOSEPH F. PLUMMER, of Richmond, Ia. sends us the following:—"Put half a tea-cup full of tanners oil—the more rancid the better—in a large dinner plate, or any vessel as shallow and broad, and set it on the floor of the closet, close the door, and in a day or two the ants will disappear. We have had them feasting in our sugar barrel, and by setting a plate on the sugar, with a cloth steeped in the oil, they soon left; and indeed I know of nothing more offensive to insects than the smell of this oil."

Mr. Plummer is informed, that there *is not* any agent in the United States, that we are advised of, for the importing of foreign cattle and horses; and that we receive subscriptions at all seasons.

SILK CULTURE IN POOR-HOUSES.

G. W. FORMAN, of Fleming county, Ky. asks—if it would not be a good plan to establish the silk culture in the poor-houses through the United States? We concur with him in the opinion that it would. We have urged the propriety of adopting this plan some years ago. And, to adapt the business more to the ability of the children and invalids of such establishments, we recommended that the mulberry be cultivated in hedges, or as shrubs, rather than as trees, to facilitate the gathering of the leaves.

AN AGRICULTURAL GLOSSARY—THE CORN CROP.

It is suggested by W. P. VAIL, of Stroudsburgh, Pa. that we give a glossary of those terms in the art and science of agriculture, which are not generally understood. We gave a glossary of chemical terms in No. 1, of vol. iv. and we propose to carry out further the suggestions of Mr. Vail, as soon as opportunity will permit.

Mr. Vail says, that twenty-five bushels of corn per acre is deemed a good average crop, in his neighborhood; and that his neighbors are rather sceptical of their being able to get eighty bushels per acre. If they will plant northern seed, at the distance we plant, feed every acre with twenty-five good loads of long manure, on a dry sandy or loamy soil, and cultivate as we cultivate, our Stroudsburgh patrons may have their doubts

removed in this matter. The great bar to heavy crops of corn at the south, is the tall habit of growth, which necessarily requires thinner planting, and, we fear, a scantiness of dung to feed the crop. The Pennsylvania mode of planting, 4 by 3, gives but 3,600 hills to the acre; and if there are but two stalks in a hill, it gives but 7,200 stalks. In our mode, 3 by 2½, and four stalks in a hill, we get 5,808 hills, and 23,232 stalks—and every stalk will yield at least one good ear—*if the crop is well fed and well worked*;—but upon poor ground, or even upon rich ground, without good manuring, all the stalks would not produce ears, nor would all the ears be good ones. The business of corn raising is the manufacture of dung into grain; and without a plenty of the raw material, we cannot expect a great abundance of the manufactured article. There is scarcely any farm crop that makes a more liberal return for manure than Indian corn.

THE MULTICAULIS.

"Some complaints are made here by your subscribers," says our Georgetown, (D. C.) correspondent, "because you do not *encourage* the cultivation of the morus multicaulis. Many of my neighbors have been inoculated for the disease, and some have taken it in the natural way. I hope they may not be much *pitted* by it." We hope so too; and doubt the propriety, therefore, of administering *stimulants* during the paroxysm of the *fever*. But we can say to our patrons on the Potomac, that our remarks in regard to the multicaulis have been meant to apply to the north. We do not doubt the tree may grow well, and *sell* well, and become a profitable and useful article of culture, perhaps in all the country south of New-York—but *here*, while we think it no better than other and hardier varieties, we should feel it a dereliction of duty to encourage its extensive culture, especially if it is to be purchased at the present high prices.

THE DESTRUCTIVE SYSTEM.

LUKE FISH writes from Brush Creek, Ohio—"We are three miles east of the *Great* Miami, which, by the way, is not very great here. Our land is very flat in general, with large timber, beech, ash, bur-oak, hickory, lime, poplar, elm, buckeye and some walnut. Land rates from ten to twenty dollars an acre. Farming with us is in a most wretched condition—to take *all off*, and put *nothing on*, is all the go here." This system has been *all the go*, in the old east, till the meal-chest has become empty—the field wretchedly poor. We beg our patrons in the west to pause, and to consider the inevitable tendency of this *destructive* system of farming.

NEW DISCOVERIES.

A worthy friend in Lancaster co. Pa. B. CLENDENON, writes us, what seems to be new to him, and what we fear many have not yet found out—1. That our doctrine in regard to manure constituting the proper food of plants is orthodox; for, says he, "some corn that I manured lightly, was fifty per cent better than that alongside without manure;"—and 2. That the government expends millions of dollars annually, "for the benefit of the commercial interest, while the agricultural interest is left to take care of it-elf, though I admit it is incidentally aided by commercial facilities."

EXPERIMENT IN HARVESTING CORN.

S. HITCHCOCK, of Sharon, Ct. has sent us the result of an experiment which he made last season, in harvesting Indian corn; and we are pleased to find that the result corresponds with the results of our experiments, made in 1837 and 1838—and shows a manifest advantage in *cutting up* over *topping* the stalks. "I counted off 48 hills," says Mr. Hitchcock, "and cut them up at the roots. I counted off other 48 hills, and topped them according to the old mode. On harvesting, I found by weight, that there was at the rate of eight bushels per acre more corn on the cut up, than on topped corn. There was no manure on the spot experimented upon, and the crop was not large, otherwise the difference might have been greater."

Mr. Hitchcock asks what grasses will grow in a maple grove. It will be difficult to make any flourish, unless the ground is first ploughed. The orchard grass and white clover will, we think, do best under the shade of trees.

REARING CALVES WITHOUT MILK.

We have several inquiries as to the most economical mode of rearing calves. The practice of many, and we are included in the number, is to take the calf from the cow at three days old, and to give it sweet milk ten or fifteen days, and afterwards skimmed milk, with a gill of flour or Indian meal, till it is fit to wean, at twelve weeks old. This is the common mode. The following, from the Bath Society papers, is perhaps a better, if not a cheaper mode.

"The following is as near a calculation of the expense of rearing my calves, without milk, as I can at present assert. In the year 1787, I weaned seventeen calves—in 1788, twenty-three, and in 1789, fifteen. I bought, in 1787, three sacks—[three bushels each]—of linseed; I put one quart of the seed to six quarts of water, which by boiling ten minutes, became a good jelly; this jelly is mixed with a small quantity of tea of the best hay, steeped in boiling water.

"Having my calves to drop at different times, I did not make an exact calculation of the expense of this hay-tea; but out of my three sacks of seed, I had better than two bushels left at last. I gave them the jelly and hay-tea three times a day. To the boy who looked after them, 6d. (11 cents) per day: the price of the linseed was 4s. 6d. (say $1) a bushel: the whole three years' feed £2.5s. ($10.) My calves are kept in a good growing state, and are much better at this time than my neighbors, that are reared by milk; they do not fall off so much when they come to grass."

We beg of our dairy folks, who are in the habit of murdering their calves at their birth, to save milk, to try the above mode. Here were fifty-five calves raised at an expense, in linseed jelly, of about 18½ cents each, with hay-tea and attendance, as cheap here as in England, without a particle of milk. If interest does not prevail, humanity should.

As a cure *for scouring* in calves, mix a ball of wheaten flour and chalk with gin, and give them—or lay before them a lump of chalk, which they can lick.

To young calves, the food, be it sweet or skimmed milk, hay-tea or linseed-milk, as it is called, should be given of a temperature similar to cow's milk when first drawn; as they advance in age, the heating may be gradually dispensed with; and wisps of hay should then be placed before them, in order to induce them to eat. Barley, Indian corn and oat-meal may be given in small quantities in their drink, and increased as they advance in growth. Beets, shredded fine, are said to be excellent for calves, when they get four or five weeks old.

MR. OSBORN'S PREMIUM CORN.

Mr. OSBORN has felt called upon, by the remarks of Mr. DODD, to send us a corrected statement of the profits of his corn crop. He has made his crop debtor for board, threshing, keeping team, &c. a little more than $17, in addition to his former charges, making the expense of an acre $37.85. The manure he still makes no account of, as he says it will sell for nothing, and he can get it from others for carting away. But he also adds to the credit side $6 more for stalks, upon which he says he has kept almost entirely sixteen head of cattle during the winter; and he also raises his corn to $1 per bushel, the market price. So that in striking the new balance, he makes the nett profit of the acre $96.65, instead of $87.71.

TRANSPLANTING EVERGREENS, &c.

Mrs. SARAH BATTELL, of Norfolk, asks directions for transplanting the white pine and rhododendrons. In addition to the directions in our last, we advise, that a circle be made round the pine or rhododendron to be taken up, with a spade, of such diameter as to embrace the principal roots; that the spade be inserted six or eight inches, or below the roots, and that the plants be lifted carefully, with as much earth as will attach to them, and that they be planted two inches deeper than they stood in the forest, and the roots covered with litter, well wet, and then with earth. In this way we transplanted six large white pines on the 8th July, at midday, thermometer at 82°, and the sun shining bright—all of which lived and are doing well.

We recognize in our correspondent, an amateur florist and pomologist; and we would be glad to instruct her in the means of preserving her fruit trees and her flowers. The diseased branches of the plum should be cut off and burnt *as soon as the disease appears*, and not *periodically*, as has been the practice of our correspondent. We have improved the health and growth of our pears, we think, by throwing round the collars of the tree some shovels full of tan. We have considered a clay soil so essential to the plum and pear, that we have deposited a barrow full of this earth in the hole intended for a plum or pear tree, and about its roots.

The *Brake*—(*Fern*)—of which our fair correspondent's neighbors complain, and which one says, "will ruin me—will run out my pasture and my meadow," can only be overcome by labor and perseverance—by subjecting the land to thorough tillage, and by collecting and burning, when necessary, the *root* of the evil.—*Ferns*, of which there are many species, are cultivated in Europe, as rare and scarce plants, but in no case, we believe, as useful ones. And yet they cannot be said to be without their use: they admonish the slothful, that if he would enjoy the treasures of the soil, he must win them by the "sweat of the brow." Mrs. Battell's "Cardinal," or "Eye-Bright," is noticed in our floral department, under the name of "*Lobelia*," which is the Cardinal flower.

QUERIES.

"1. What kind of manure is best for a sandy soil, with clay three feet below the surface?

"2. Is deep or shallow ploughing the best mode to protect such a soil, in order to make it produce clover, or small grain?"

ANSWERS.

1. The answer to the first question depends upon the inclination of the surface; but any vegetable or animal manure is good. If the surface is flat, the soil will be inclined to be cold, and will be benefitted by warm unfermented manures; if sloping, fermented or colder manures may be preferable. Unfermented manures should be applied to hoed crops; fermented manures may be applied to small grain crops.

2. The deeper the better, to the extent of twelve inches, provided that the soil to this depth can be made sufficiently rich. Deep ploughing, with the above contingency, should be resorted to once in a course of crops, be it a course of four or six years. But if the soil is poor, it should be deepened gradually, as the means of fertility can be imparted to it.

TEA TREE.

GEO. N. BURWELL, of Buffalo, wishes to know the address of the gentleman who cultivates the tea tree, so called, in Ohio. Who will inform him?

The greatest clogs to improvements in agriculture, are indolence, ignorance, and self-conceit; wherever their influence extend, they paralyze the very earth, and produce sterility.

CORRESPONDENCE.

Leached Ashes and Brine—Steaming Ruta Baga.

New-York, April 12, 1839.

JUDGE BUEL—I noticed in your April Cultivator, a communication on the subject of the use of leached ashes, and suggesting advantages to be derived from a mixture of salt or brine, in its application, of which I am disposed to think favorably, and shall try its utility in the western part of this state, where the soil is of a sandy and gravelly loam, and where we have abundance of leached ashes, & where we have used them without much apparent advantage. I, however, must differ entirely with Mr. Easton, as to its utility upon clay soil, having used it in connection with a few loads of manure, at the rate of seventy-five bushels to the acre, some twenty-five years since, on a clay soil, some two miles west of Hartford city, where nothing but five fingers grew; a very stout crop of herds grass and clover was brought forward the first season, and continued a first rate piece of meadow for some years, until I removed from there. And had I clay soil now, I should apply ashes, with perfect confidence of its great advantage.

The distribution of saline qualities over land, must, I think, be attended with beneficial effects. We may at any dry time observe the dampness of the soil where there has been brine turned out, continuing for a length of time; and from this fact, we have a right to anticipate advantages. Its connection with leached ashes may be advantageous, or it may not, farther than in the mode of distributing it. This we must learn from future published experiments.

One of your correspondents complains of the quality of his beef, as made from ruta baga, which I suppose must arise from his having fed it raw. I had a steamer put in operation last fall, made sufficient to contain twenty-five or thirty bushels, which were well steamed in less than three hours; and several hogs and one ox, were fed and fatted on steamed rutas. The ox, with about six weeks feeding, made very fair beef, and my folks say they never ate better. There can be no question but steaming is a great improvement in feeding all kinds of roots, and I am inclined to the belief that all unpleasant flavors may thereby be avoided.

My box for steaming, was made with a door on top, to put in the roots, with a door at the end to haul them out when done, into a cooler, secured by scantling, let in to each other, in the manner ship-carpenters steam plank. AGRICOLA.

Inducements for Cultivating Fruit.

J. BUEL, Esq.—Feeling desirous in common with you as conductor, and the numerous readers and correspondents of the Cultivator, of "improving the soil and the mind," I have taken the liberty of extracting from a periodical I took some years ago, from a subject the title of which is "Fruit a substitute for ardent spirits"—The writer says, "I am fully of the opinion that the habits of temperance and intemperance in different nations, are to be ascribed to some extent at least, to their possession or want of an abundance and variety of fruit, particularly of the finer and more delicious kinds.

The temperance which prevails in the south of Europe has been ascribed to the general use of wine.—That this is a cause of very considerable influence cannot be doubted. For the tendency of wine to produce an intemperate appetite is far less than that of distilled spirits or malt liquors. But when it is considered that in the northern countries of Europe, those wines only are held in estimation which are fitted to produce excitement, and that to a considerable extent they are subservient to intemperance; while in Italy, for instance, where intoxication is of exceeding rare occurrence, those wines are preferred which are sweet and pleasant to the taste, and that they are used solely for the purpose of refreshment; it becomes necessary to look out for some other cause for the singularly temperate use which is made of wine itself in the southern countries of Europe. This cause, it is believed, will be found in the use of fruits, which are very abundant in those countries where the vine flourishes. But the tendency of wine to create an intemperate appetite is comparatively so small, the quantity of weak and therefore harmless wine made and consumed in countries producing the vine is so great, and so excellent is the fruit itself, that the vine may doubtless with propriety be cultivated for the purpose of checking intemperance.

In the United States of America, though well fitted for the production of fruit throughout nearly their whole extent, drunkenness or intemperance is every where common. This may perhaps be considered an anomaly. But it admits, I think, of a satisfactory explanation. The original settlers of this country were principally from the British Isles, and brought with them a taste for fermented liquors, which they had contracted in their native land. For a long period they were of necessity wholly destitute of fruit, with the exception of a few inferior kinds which grew wild. And even to this day the more delicious fruits, such I mean as are suited to the climate, are by no means extensively raised. On probably nine-tenths of the farms in what may be termed the old states, there is little fruit of any value, with the exception of apples, and these often not grafted. Peaches were formerly common, but now they are very rare, though with a little pains easily raised in any quantity. English cherries, with the exception of a few places, are by no means abundant. Good pears in any considerable variety are seldom seen. And strawberries, raspberries and gooseberries, are cultivated in only a small number of gardens. Here and there an indivi-

dual is attentive to the raising of fruit. Though but few families, probably not more than one in five hundred, are well supplied the year round with the various fruits suited to the season. Hitherto, therefore, in this country the use of fruit can have had but a partial influence in promoting temperance.

The manner in which fruit is made to supply the place of fermented liquors is easily explained, and the statement, it is believed, will correspond with what most persons have experienced or observed. In the intervals of our regularly established meals, we all occasionally, and very many of us constantly, either feel, or fancy that we feel, the need of some slight refreshment. At such times, if fruit is not to be had, many persons resort to fermented liquors, and thus insensibly lay a foundation for intemperance. But if they are in possession of delicious fruits, these are almost always chosen by temperate people in preference to the choisest wines. This need of refreshment is more especially felt in summer, consequent upon the exhaustion occasioned by heat and fatigue. Fruit is then found to answer the double purpose of quenching thirst, and recruiting exhausted animal nature, and in the most perfect manner. It is a consideration also worthy of remark, that when our friends visit us, the feelings of hospitality very justly prompt us to set before them some refreshment, a refreshment not only generally acceptable, but often needed. Those who have no fruit very commonly offer their friends some kind of fermented liquors, the very thing, perhaps, which is neither needed nor desired. But those who have fruit, almost invariably bring it forward, and to the evident satisfaction of their guests. And when fruit and liquors are both presented, the first is seized with avidity, and the wine, the strong beer, and the spirits are generally left untouched. The man, indeed, whose appetite is not satisfied with the delicious fruits alone, already possesses a dangerous fondness for spirituous liquors. It may be thought by some, that the laboring classes of the community would set but little value upon the substitute here proposed for ardent spirits. Whether they would or not, it is certain that the use which they make of ardent spirits is detrimental.—But what reason can be assigned why they should value fruit less than other men. They have the same appetite, and fruit is equally refreshing to them. The reformation of drunken laborers, by the substitution of fruit for ardent spirits, is certainly not expected; nor indeed the reformation of any class of drunkards. But in those cases where the natural taste has not been vitiated by the use of ardent spirits, it is believed that fruit would be chosen by laborers invariably, in preference to ardent spirits—allowing at the same time, that they were properly aware of the danger of intemperance. Nothing certainly can be conceived of, more suited to the wants of a laborer, toiling in the dust or sun, athirst and weary, than a plate of strawberries, a melon, or basket of cherries, or peaches, or apples.—With these and other fruits, which might easily be raised in sufficient abundance, together with some simple drinks, as common beer, milk and molasses and water, and cider when desired, the laboring classes of the community would undoubtedly be able to perform the greatest quantity of work, with the highest health, and in the best spirits.

The expense of cultivating fruit is much less than is generally supposed. In the court-yards and gardens connected with most houses, there is ground sufficient—and ground usually unoccupied—for raising in abundance, every variety of fruit suited to the climate, with the single exception of apples. The original expense of procuring the trees is trifling; and even this may soon be wholly saved, by a little pains in raising them. That which is indispensably necessary, and which constitutes the principal difficulty in the way of procuring fruit, is the frequent attention requisite for preserving the trees from injury while young, for improving the fruit by introducing good sorts, and keeping up a continued supply. But this requisite attention makes no serious encroachment upon the time; and those who have bestowed it, have found themselves abundantly compensated by the pleasure and healthfulness of the occupation, aside from the direct enjoyment of their labors.

Very great exertions are now making, to banish all improper use of ardent spirits from our land. In these exertions, every Christian and every philanthropist must rejoice. Since the commencement of these exertions, the importance of providing substitutes for ardent spirits has frequently occurred to the benevolent, and various substitutes have been suggested. In recommending fruit for this purpose, it is not designed to have it take the place of other suitable substitutes; but to have it introduced into their number, with that rank and importance in the scale to which its just claims may entitle it."

If in your judgment, there is any thing in the foregoing extract, worthy a place in the columns of the Cultivator, you can insert it. It is submitted entirely to your consideration. Yours, SIMEON McCOY.

Deckertown, March 1st, 1839.

Query.

Westmoreland county, Va. 1839.

The machine for taking off the heads of clover seed, having performed its office, how is the seed to be cleaned, or prepared for market? An answer to this would greatly oblige A SUBSCRIBER.

ANSWER.

The seed is to be taken off in a machine constructed for this especial purpose, called a clover machine, which costs $60 to $70, one of which will serve for a neighborhood. See article Clover, in the editorial department of our March No.

Inquiries in regard to Hedges.

Saline county, Mo. February, 1839.

Mr. BUEL—Sir—Permit me to say, that I feel highly gratified to find developed in the columns of the Cultivator, so much useful information to all classes of society, and that I feel a particular interest in common with many of my fellow-citizens, in its circulation and the adoption of its principles in the far west.

Agricultural improvement is certainly one of the most laudable of all pursuits, for thereby the interest and happiness of all classes of society are greatly advanced; and as this seems to be the primary object of your highly useful periodical, permit me, sir, to draw your attention, and, (through your columns,) also your intelligent correspondents, to a circumstance relative to some of the most fertile districts of country west of the Wabash and Mississippi rivers, which greatly retards the progress of agriculture and population: It is the very great scarcity of timber for fencing. This circumstance is at present a barrier to a large portion of our country, best adapted to agricultural purposes. Your attention therefore, to the following inquiries, sir, will be very gratifying, and may be extensively useful in the great valley of the Mississippi.

Can we not enclose land by hedging? If we can, what is the best mode or material to be used for that purpose? How should the hedge be treated, and where can we get the seed or quicks? Will not the pyracantha, or evergreen thorn, answer for that purpose? Can any kind of shrubbery be made to grow, to hinder animals from the size of a pig to the sturdy ox, from passing through or over it? Please to give us such information on this subject as may come within your knowledge, or that may be communicated. In doing so, you will, no doubt, save us from many fruitless attempts in the way of fencing, and confer a favor not to be forgotten.

We feel, sir, that we have a right to view the situation which you now occupy, (compared with our opportunity of information,) as a focus of intelligence, on the subject above stated. Any observations, therefore, which you make, (apart from our particular inquiries,) will be gratefully accepted. A. F. BRUCE.

REMARK.

The subject of hedges has been fully canvassed in our fourth volume, to which our correspondent is referred. We doubt if the evergreen thorn would be stout enough to stop cattle. The seeds of hedge plants, and of forest trees, might be obtained from the Atlantic border. See our numbers on planting, volume iii.—*Cond.*

New Disease in Sheep.

Moray Farm, Fairfax co. Va. Feb. 22, 1839.

J. BUEL, Esq.—Dear Sir—Will you allow me to solicit your aid in eliciting information through the columns of the Cultivator, which may enable myself and others to understand the cause and treatment of a disease which has recently attacked my sheep. The subjects affected are ewes with lamb. The symptoms, in most cases, are total blindness—a twitching of the limbs, similar to a nervous affection—apprehension of fear, and a state of indolent lassitude, much inclined to lie down, from apparent stupidity. The symptoms in all are very similar, with the exception of the loss of sight.

While writing, will you allow me to request Mr. Whalen, who speaks of his drill-barrow, at page 59, volume 5, of the Cultivator, to favor the public with a description of it. By so doing, I presume he will much oblige many patrons of the Cultivator. Yours respectfully, LEWIS BAILEY.

Culture of the Mulberry.

JUDGE BUEL—Sir—In the spring 1838, I made a plantation of ten thousand white mulberry trees; and the success and trifling expense with which it was effected, have induced me to offer to you for publication a detailed account of my operations, with an estimate of the expense.

In the spring of 1836, I made a small experiment in raising the trees, which was so successful that I determined to attempt the making of a plantation; and purchased from Mr. Thorburn, of Albany, about six shillings worth of seed, which I sowed on the 24th of May, 1837. The land was a light sand, sufficiently rich to afford corn at the rate of thirty-five or forty bushels to the acre. It was prepared for the seed by once ploughing, harrowing and raking. The line was laid down, and drills about half an inch deep, were made with a pointed stick. The seeds were sown by hand, care being taken to drop them in the bottom of the drills: and not to have them so thick as to rise in bunches. To expedite the vegetation of the seed, which, in the mulberry is slow, I poured upon the seeds about a quart of water, as hot as the hand could bear, and left it to cool; then pouring it off and covering the seeds, they were put in a warm place and permitted to stand over night, and just before sowing, they were spread to dry, so much as to prevent their sticking together. The drills were three feet apart. The mulberry plant is small and delicate on its first appearance: and the first weeding is not only somewhat tedious, but the young mulberries are often pulled out, along with the weeds. To obviate these inconveniences, I carefully marked the exact course of drills by setting up small sticks at convenient distances along the drills, and pulled out the weeds as fast as they appeared, and before the mulberries came up. After the plants were up, they were kept free from weeds, by frequent hoeing and hand weeding. The bark of the young mulberry, at the surface of the ground, is so delicate that it is often destroyed by the frosts of winter. It is expedient, therefore, to protect them by a covering of litter from the stable, before the hard frosts of the fall. By this means, my mulberries to the number of nine thousand, were carried safely through the winter of 1837–8. In order to have them ready for transplanting, I raised them out of the ground early in May; tied them in parcels of fifty each; cut off the tops within an inch or two of the ground; cut off the tap-root, and such roots as were wounded in the taking up, and buried the plants in the earth to protect the roots from injury by drying. Thus far, I kept no exact account of the labor bestowed, and must rely principally upon estimation. But as the details are given, every one will be enabled to correct my estimate, to suit his own judgment and circumstances. The same remark may be made as to the expense of preparing the ground for the plantation; the soil of which was very similar to that in which the plants were raised. It had been under the hoe in 1837, and was ploughed in May, and harrowed. It was then laid out in broad furrows, six feet apart. To make the furrows straight, I set up a line of stakes about four feet high, quite across the field. By this line of stakes, the ploughman struck his furrow, passing directly over, and ploughing down the stakes; then turning and passing the plough in the same furrow to the side of the field where he began. While he was doing this, another hand set up the line of stakes again, at two paces, or six feet from the first furrow. The ploughman struck his second furrow by this new line of stakes, and proceeding in this manner, the whole field was laid out in broad straight furrows at six feet apart, sufficiently deep and wide to receive the roots of the plants, without the necessity of digging holes for them.

On the 16th of May, 1838, I commenced the setting out of the plants, with four ordinary field hands, wholly unacquainted with such work. Each man took his furrow and his plants. If the bottom of the furrow was smooth, and sufficiently broad and deep to receive the roots, no further fitting of the ground was necessary; otherwise, the ground was fitted by the hand; deepening, filling up, widening, levelling or smoothing it, as occasion required. The plant was placed on the bottom of the furrow; the roots spread out and covered by pulling down with the hand a sufficiency of earth to hold the plant in place, and pressing it down with the hand. In this manner, the furrow was filled with plants, at about two feet apart. The planter then took his hoe, and drew down the earth about the plant, filled up the furrow, and levelled the earth around the plant; leaving at present, that part of the furrow between the plants, to be filled up at the first hoeing, or sooner if dry weather should follow, and threaten injury to the plants.

On this day, the four hands set out four thousand plants. On the 17th, one of the two best hands was taken off, leaving only three hands in the field; but these three set out four thousand seedlings, and about fifty plants of two years growth. The setting of the residue of the ten thousand was done at intervals, but with equal despatch. Thus the setting out of ten thousand trees was accomplished with eight and a half days' work of ordinary and inexperienced field hands, and the whole expense of the plantation, as it then stood, did not exceed fifteen dollars. That the work was well done, appeared from the subsequent growth of the trees; some of which rose to five feet, the whole averaging about two and a half feet. A very inconsiderable number of the plants perished; but I do not believe that a single good one failed by the operation of transplanting. They now appear to have gone well through the winter. The ground occupied by the plantation is three acres, by estimation. The items and estimate of expense stands thus:—

ESTIMATED EXPENSE OF REARING 10,000 PLANTS.

Ploughing and harrowing 1-5th of an acre, by estimation,	$0 40
Raking the ground and making the drills,	0 25
Sowing the seed and covering it,	0 25
Seed,	0 75
Weeding and after culture,	1 25
Covering with litter in the fall, one day,	0 75
Taking up and tying in parcels of 50 each, 2½ days	1 87½
	$5 52½

Expense of preparing three acres of ground for the plantation.

Ploughing, harrowing and furrowing, estimated to be equal to the work of a man and pair of horses three days; but as corn was planted between the rows of trees, only half the expense of ploughing, &c. should be charged,	3 00

Actual and known expense of setting out 10,000 trees.

First day, 4 hands, at 75 cents for wages and board, set out 4,000,	3 00
Second day, three hands, 4,050,	2 25
Setting out the remaining 1,950, at the same rate,	1 12½
	$14 90

Our farmers, fearing the expense, and unacquainted with the culture and habits of the mulberry, are reluctant to enter into the silk-growing business. No farming operation, however, is more easy. It resembles, in every particular, and almost exactly, the field culture of the carrot, and I do not know that it costs more to raise a seedling mulberry, than it does to raise a carrot. The work may be performed by the farmer himself, and a small plantation of 3,333 trees, occupying one acre, made with a very few days' labor, and without the expenditure

of a shilling in cash, except for the purchase of a paper of seed. The price of labor or board may be thought by some, perhaps, to be too low; or that the estimate of the quantity of labor bestowed on some of the operations are not sufficiently high. Let such add any amount, to either labor or compensation, which good judgment may deem sufficient; still the expense of a plantation will be trifling, and within the means of any one who is desirous to embark in the business. The tree is very tenacious of life; it will bear stripping of its leaves to a moderate extent, the next year after transplanting, and then begin to yield a return for its cost; the silk worm is healthy, and the attendance it requires can be performed by children, aged people and females; its profits are greater, its risk less, and the labor it requires lighter, than any other farming operation; its production is easily and cheaply transported to market, and meets a ready sale, at a high price.

Why, then, should our farmers longer delay to enter upon the raising of silk, by which they will enrich themselves, render our country independent of foreign nations for our supply, and save at home those millions which are every year sent abroad for its purchase.

R. WESTON.

Sandy-Hill, Washington county, State of New-York.

Light Crops, &c. in Illinois.

Naperville, Ill. March 19, 1839.

Last year, in this section, it was rather discouraging to farmers; on account of the drought, not one-half a crop was realized. Spring wheat very poor—oats very light—last fall very dry; what winter wheat was sown, not one-half came up; I sowed fifty acres, and I do not think that over one-third of that came up. This spring some of it has shown itself, that did not make its appearance last fall; what it will amount to, I cannot tell. The farmers here, generally, are afraid to put in fall wheat, from the fact that much of it kills out during winter and spring. I should judge that the system of farming in this country was bad. Before ploughing, they burn off the stubble, and all other matter which will burn; their straw, instead of converting it into manure, they pile up and burn to get it out of the way. Thus the land is left without support, except from the ashes made from the burning stubble and grass, which does not amount to much in my opinion.

There is a kind of wheat in this country, which by some is called Italian, and by others Siberian; it is a hard flint wheat, large heavy kernels, weighs from 62 to 65 lbs. per measured bushel. Our millers complain about grinding it, on account of its being so very hard. We have another kind here, that is also by some called Siberian, and by others Italian; this latter kind is large kernels, not so heavy or hard as the first mentioned kind. Can you, from my description, say which is Italian and which Siberian, or is it not either? I intend to sow thirty bushels of each kind this spring, so that I shall be able to determine which is the best yield, and most profitable. Respectfully yours,

LEWIS ELLSWORTH.

Artificial Crossing of Vegetables.

Mr. BUEL—Dear Sir—By frequently observing seedlings of different species, and of the same family maturing side by side in the garden of the heedless farmer, I am influenced by a disinterested endeavor to mention the subject of *improvement* and *degeneration* of vegetables, by crossing.

It is a very common saying with us, "my seed has run out," when in fact, instead of "running out," the plant, if rightly cultivated, may retain its first purity, and in most cases advance its fecundation, and be beneficially improved.

With many, the common practice is, to select a place in the garden to propagate the beet, turnip, cabbage, onions, &c. of the same and different species, all mingling side by side, seemingly not aware that although the parents may be of a different species, the progeny in the vegetable kingdom, as well as the animal, are inclined to take a new form. It being the natural tendency to mixture in corn, potatoes, cabbage, artichoke, turnip, beet and radish families. Therefore, to retain the present qualities of each variety, the different kinds should seed by themselves, remote from any other species of the family.

Several species among the common productions of our country may be *improved* as well as *degenerated*. Among these are wheat, rye, oats, Indian corn, pease, beans, potatoes and the squash.

The specific change in vegetables, as well as in animals, can be produced only by a slow and gradual process, a valuable property which at first is merely accidental, may, from one generation to another, by a repetition of impressions, become at last confirmed and hereditary.

When new properties are impressed on one generation, they are in some degree inherited by the next, which, after receiving additional and stronger impressions of the same kind, at last the effect is carried to its ultimate point, by selecting the best for propagation from year to year.

The new and choice varieties may be retained, if not carelessly allowed to grow among, or alongside of other inferior species, being exposed to impregnation by the male parent of its inferior, while in blossom.

I have seen this strikingly illustrated, by an experiment on the *pie plant* or *American rhubarb*. The common yellow dock grew near this vegetable, and by a few crossings, a new variety was produced, which partook of the nature of both. Your patron,

SOLOMON W. JEWETT.

Weybridge, 10th April, 1839.

Millers' Tolls.

Burlington Co. N. J. 3d mo. 11th, 1839.

FRIEND BUEL—I had presumed that any thing more on the "vexed question" of "millers' tolls" was inadmissible in your columns; but inasmuch as you have seen proper to open them again, not only in regard to an experiment which it was obligatory upon you to notice, but also some erroneous remarks of a personal character, on which account I think I am entitled to be heard again, after which I bid adieu to the subject and to your correspondent William A. Stone, whose optics, whether natural or artificial, are possessed of too great magnifying powers, presenting that to his vision which never existed; for he cannot show in either of my communications where I have said that all the loss alluded to is to be attributed to fixed air, or that all solid bodies contain it; and I consider his declaration of it but a forced construction of my words, or the effusions of a volatile imagination that can dress off an idea in a garb of gossamer to please its own fancy or to suit its purposes.

I consider it of no consequence what the natural causes of the loss may be, or whether one or many. It is not them, but the effect of them that I wished to make known and am much obliged to our friend of Rahway for his assistance in establishing the fact. I also have made an experiment, confirming a part of my premises, viz: on the 21st of 1st mo. last, I accurately weighed a quantity of wheat brought to my mill belonging to a regular reader of the Cultivator, full as clean as is usual to take to mill. I then cleaned it and weighed again, and found it had lost 1¼ lbs per bushel, which add to W. A. Stone's 10 ounces and it will make nearly 2 lbs. per bushel loss. But since your correspondent contends for causes, I am very willing to admit his first to be a prominent one, but his other lighter than air in every sense. But why does he account for only a part of the loss? Is he afraid of the explosion of fixed air? For can he suppose that air does not constitute a part of wheat, and that too in a fixed or condensed state, although it does not grow as large or as hollow as a pumpkin; for the milky substance he speaks of must either harden and condense, or clarify, as in berries. And what does his favorite Blair say? Why that water, air, and all other fluids are in a certain space equally solid with the hardest body. I am happy to congratulate him in converting *ten*-tenths of the agricultural community to the belief that more than one in a hundred parts of their wheat is water, and is absorbed by heat in the process of grinding. Seeing his proof is so positive, for he says, he has lost 10 ounces per bushel; and as 960 ounces make one bushel or 60 lbs; and the 100th part of that is but 9.6 ounces, therefore it must be composed of more than 100 parts of water, and that it is much more philosophical to attribute the loss to it than to suppose it all to be fixed air as Mr. David Walton has. Now I have no objections to his philosophy being received. It will answer my purpose full as well; for it matters nothing to the farmer whether his grain loses by the form of air or water. The object I contend for is granted, and I am now perfectly satisfied. Respectfully,

DAVID WALTON.

Millers' Tolls.

Medford, N. J. 3d mo. 9th, 1839.

FRIEND BUEL—From a previous editorial remark, it would appear you would not readily give insertion to further comments under this head; but seeing in a late number of your paper, not only the experiment called for by the editor, but an appendage of argumentative strictures on previously advanced propositions, I consider (if I meet with a corresponding liberality of feeling and sentiment from the proprietor) I can with the same propriety, take up a small portion of your paper as your correspondent, William A. Stone, who in his last, contends my former assertions are erroneous, by arguments, the principal facts on which they are founded it will be seen are incorrect. He considers it absurd to say wheat contains fixed or condensed air, "which he says, he will not admit without plain proof; because if it contains air while in its milky state, it has more room as the grain grows." This is an error of no small magnitude. The grain with us contracts from its milky state as it ripens. I presume he was rather hasty in making this reply, or at least not prepared to, from actual observation. Though to do him justice, it is believed the cause he assigned for the loss sustained during the progress of the manufacture of his wheat into flour, is obvious, the effect variable, and the result as justly attributable, (from the profound data of O. Evans, whose experiments no doubt were rigidly exact as his own,) to the escape of fixed air or the loss occasioned thereby. But in opposition to the demonstrations of O. E. and to prove the impossibility of my assertions with regard to fixed air, he exultingly declares this wise man has discovered what no philosopher has done before him; referring to his favorite author, and says, Blair's definition of solidity, "is that property which every body possesses of not permitting any other body to occupy the same place with it at the same time." Here he has inappropriately used the quotation of Blair, and for his further information, I will annex, verbatim, the illustration and experiment of this author belonging to his definition.

Illustration.—"If a piece of wood or metal occupy a certain space, before any thing else can take possession of that space, the wood or metal must be removed."

Experiment.—"If some water be put in a tube closed at one end, and a piece of wood be inserted that fits the inside of the tube very accurately, it will be impossible to get the wooden piston to the bottom of the tube unless the water is taken away."

2d. "The experiment may be made with air instead of water."

Corollary.—"Therefore, water, air and all other fluids are in a certain space equally solid with the hardest body."

I cannot conceive how your correspondent, from these quotations, can invalidate my previous assertion; for a few considerations will show, that two bodies of external figure or form, (for these are essential properties of all bodies,) without regard to their size, composition or inherent properties, cannot exist in the same place at the same time. The author, in this experiment, has no allusion to the substances which, by union or chemical combination, form these masses. Analysis has shown, that during the decomposition of wood are obtained a quantity of water, an acid, several kinds of air, and there remains carbon, a black porous substance called charcoal. These quotations from this author only prove solidity to be essential to all bodies, and before one can occupy the space of another in identity, the latter must be removed or annihilated, which is not acquired by human aid. Since the power of Omnipotence was required to create something out of nothing, that same Omnipotence will be required to reduce any thing again to nothing. His inference from that quotation cannot be admitted; thus his anticipations on this score are completely frustrated, while my proposition remains good and authentic. It would be more wise, at least more exemplary, if this man before making public harangues on the wisdom of others, would be more lavish in giving his own publicity. The critic catches at the word fixed or condensed air, (which I connected as synonymous terms, and are equally appropriate as his own "loose" air,) for there is as much reason to believe it exists in a fixed as a "loose" free state. In his last communication I find no proof against the point I contend for; and from the determination Oliver Evans made to write on this subject, I believe justice was his motive, and his knowledge deduced from experiment and observation; who for many years pursued the business of a miller, and understood the mechanism of mills for grinding wheat and other grains, and at that time was the most skilful millwright and experienced miller in this or perhaps any part of the United States.

From renowned authority, I assume my statement to be correct, and do scrupulously adhere to it until the contrary shall be proved. Respectfully, &c.

SILAS WALTON.

Suggestions to Builders of Stone or Brick Houses —Asphaltum Pavement.

New-York, March 18, 1839.

J. BUEL, Esq.—Dear Sir—Having been engaged in building some fifteen years, and feeling much indebted to others for the useful information I have received during that period, I will offer a few remarks in answer to the second and third queries of your subscriber at Morristown; and although they may not benefit him much, they may be of service to those who have yet to erect country dwellings. To such I would say, never erect a house of brick or stone, unless overruling circumstances compel you to adopt that course. If so, fur off all your outside walls with joist or strips of plank, and lath and plaster on them, instead of plastering on the walls. By so doing, a part of the evil arising from a stone or brick building, may be obviated. It is a common opinion, that all the objections to stone and brick buildings in exposed situations, arise from the walls receiving moisture at the surface. That injury does arise from this cause, there can be no doubt; but as human ingenuity and skill can overcome it, it sinks into insignificance. The irremediable evil exists in the condensation of vapor, with which, I presume, every one who drinks cold water in summer, is acquainted.—The walls of an isolated stone or brick building, will retain the cold they have imbibed during winter, until May or June; and holding an unequal temperature with the atmosphere, will condense all the vapor which comes in contact with them. We often see the water running down the walls and windows, and find the rooms chilly, damp and uncomfortable, while the air out of doors is bland, warm and delightful. This fact could be established by a thousand witnesses, while the cause remains almost unnoticed. A stone palace and a stone prison are alike in one respect at least, and both are destructive of health and comfort, unless they are kept warm by fire, and well aired, until midsummer. I would not increase the chills of those who suffer the evils of a stone or brick house in the country, or any exposed situation, but if I could, I would prevent an increase of the evil. It may be asked why these effects are not experienced in cities where most of the buildings are composed of brick, I answer, they are more compactly built, and the walls protect each other and seven in ten of the rooms have fire in them continually during winter. To your correspondent at Morristown,(and there are others there suffering with him from the same cause,) I would say, if your walls have not been painted or whitewashed so as to prevent the cohesion of mortar, take two parts, by measure, of clean sand, and one of good fresh burnt lime; slack dry; mix and use while hot or warm; lay the coat on thin and float it; finish up like hard finish

or white wall, and trowel it very hard and smooth. The plastering should be done early in the spring, and the wall receive a coat of boiled linseed oil in October following; this if well done will make the surface of the wall impervious to water—the only point to be gained—without it, the mortar will freeze off. I think no Asphaltum has been used in this city for covering walls. I saw the two pieces of pavement done with it in Broadway, in front of Nos. 167 and 241, and think it could not be well laid on perpendicular walls. It is prepared with coarse sand, in an iron vessel, over a furnace, and requires a high heat to enable the workmen to mix and spread it. The ground received no preparation, except hard treading; the coat is laid on about an inch thick; short iron bars were laid down twenty inches from, and parallel with the curb stone, and the space filled level with the bars, which formed the line and thickness of the first course; and this process was repeated until the whole was finished. It is smooth, and to this time stands well. I have no knowledge of the expense.

Your remarks, elicited by a former communication of mine, have given me new light on the value of manure in the west. If Mr. Osborn carted out the manure, for the purpose of breaking his steers, I have done him wrong, and ask his pardon for it. I am working a farm by proxy, and would like to have a few pairs of steers broke upon it in the same way. Yours truly,

JOHN M. DODD.

Great Crop of Potatoes.

Middlefield, Mass. March 13, 1839.

Mr. J Buel—Dear Sir—Having read with interest, the various experiments, as detailed by your correspondents, and published in the Cultivator, I thought I would contribute my mite, by giving you the account of an experiment which I made the last season in raising potatoes. The piece of ground upon which the experiment was made, contained eighty-two rods, planted the previous year to corn, yielding about twenty bushels of unsound corn. Upon this ground I spread nineteen loads of compost manure, and ploughed it in; I then threw it into ridges of three and a half feet width, planting the hills on each side of the ridge, thus • • • • • • • • • • hills twenty inches apart. The ground is naturally dry, and the severe drought of last season must have contributed to lessen the crop. The account stands as follows:—

Dr. To carting and spreading manure,.....	$2	00
ploughing and ridging,.....	2	00
11 bushels seed,.....	3	75
planting,.....	2	00
hoeing,.....	2	00
5 days' harvesting,.....	5	00
manure,.....	7	00
Interest on land,.....	1	25
Total,.....	$25	00
Cr. By 340 bushels of potatoes, at 25c.....	$85	00
Deduct.....	25	00
Profit,.....	$60	00

I contemplate making other experiments the coming season, with the different root crops, and if successful you may hear from me again Yours respectfully,

EBENEZER SMITH.

Experiments in Preserving Plants from Insects and Worms.

Huntington, L. I. March 20th, 1839.

Mr. J. Buel—Dear Sir—As the time of planting corn again draws nigh, we begin to think about using some means to prevent the destruction of the seed and young plants, by the grub, wire-worm, birds, &c.

The grub was very troublesome in this section of the country, last season, and I believe there was no remedy better than hunting them out and killing them. Some of your correspondents recommended soaking the seed in warm water, strongly impregnated with nitre, from twelve to twenty hours before planting, and you also recommend a trial of this, and to be favored with the result. We tried it faithfully last season, but we only found that they loved the taste of salt as well as other animals. We carted on our corn ground, a load of old wall, strongly impregnated with lime, and ploughed it under. *No worms troubled the corn where this was put on.* Whilst on every side, they destroyed one-third. In the last May number, page 63, under the signature of "*A Subscriber*," from Dutchess county, feeding the worms is recommended, by laying heaps of mullen, dock, &c. about in your corn, about the time of its coming up. This we have also tried, *with success.* But we only caught the cut-worm. They do but little injury to our corn; but beans, pumpkins, cucumbers, melons, &c. they devour greedily; they come to the top of the ground in the night, and travel till they can find something to feed on, when they fill themselves by eating off the plant near the surface of the ground. If you will take a lantern, and go in the field in the night, where they are plenty, you will see them crawling about in search of food. But the grub that has been so troublesome here, is of a light colour, with a red head, and eats the corn off between the surface of the ground and the kernel, destroying it wholly at once.

Buckwheat sown among turnips will not protect them from the fly, as recommended by "*A Lady*," in the last March number. We sowed a patch of turnips in the middle of a piece of buckwheat, to protect them from the grasshopper; the buckwheat came up all over the patch, and the fly was as thick as I ever saw them any where. I saved my turnips, by putting Scotch snuff on them in the morning, when the dew was on.

H. B. ROGERS.

P. S. Does the Rohan potato vines require to be supported up by stakes? [*Answer*—No.]

Farming—Seed Corn—Calves.

Dear Sir—In offering a few remarks for your consideration, I do not wish to be considered as being actuated thereto by a love of notoriety, or the mere vanity of seeing my name in print. The very flattering notice taken of the contributors to the last volume, in the last number of said volume, is the incentive to the present undertaking. Though I feel willing to give myself a very humble place among said contributors, yet I know that there must have been something worthy of observation in what I have written, or *you* would not, to please *one*, have inflicted a penalty upon *thousands*.—Encouraged by these views, I offer again for your acceptance, a few remarks on the all-important subject of husbandry.

That the tillage of the soil ranks the highest in point of usefulness, of the various occupations of men, I trust there are few or none, in the nineteenth century, to deny. The beneficent Creator of the universe, has connected with this employment, the highest enjoyment of which human nature is susceptible, with the least corroding care. Breathing a pure air, and "catching health from the balmy breezes," rising with the lark and retiring betimes, who so enjoys "tired nature's sweet restorer," as the farmer? He alone that tills the soil receives nature's bounties fresh from her hands; and consequently he only enjoys the produce of the soil in its highest perfection. Though husbandry is generally considered as the most simple of all occupations, there is no one employment to whose aid more *science* can be brought; nor which is more highly improved by the light of science. The greatest talent of the age has been enlisted in its behalf, and every day witnesses more and more of the brightest genius enrolling itself as its ardent admirer and most successful follower.

It is really wonderful, that husbandry, forming as it does the *foundation* of all prosperity, should yet have received so little attention from the legislative wisdom of our country. Much has been done and is doing for schools, academies, and colleges, the object of which is to train the young for mechanics, merchants, lawyers, doctors, &c. This is well; the perpetuity of our free institutions depends mainly upon educating the common mind. But it would be better that attention were given to train more of the young for the healthful, delightful and profitable employment of husbandry. I hope, then, that the agricultural periodicals of the day will exert themselves to attain this most desirable object, and I have been truly gratified to find that yours has done much to forward it.

I will close this article with a few practical remarks on the subject of this communication. My neighbors and I have found, without, I believe, a single exception, that corn planted as it comes from the cob, without any artificial preparation, comes up better, and stands better, than when soaked in any liquid. I, one season, planted corn and put next the corn a handful of unleached ashes, not one grain in a thousand came up; I replanted with corn in its natural state, and it grew well. One of my neighbors desires to state that chamber-lye placed where young calves can get to it, will be greedily partaken of by them, and it promotes their health and growth in a surprising degree; I have not tried it.

The system of agriculture is slowly but gradually improving in this vicinity. Manure in its long state, is more used than formerly; the use of the cultivator in dressing fallow crops is extending; and much more use is now made of clover and other grass seeds, than a few years back. Other improvements might be mentioned, but feeling that I have taxed the patience of you and your readers sufficiently, I close.

E. H. VANUXEM.

Insect Enemies.

Last summer, just after my squash and melon plants put out their rough leaves they were completely riddled by the little striped flying bugs, that literally swarmed upon them. A friend who was visiting me at the time proposed that I should try what had proved to him an effectual remedy: accordingly I put some fresh cow droppings into a tub, mixed therewith water, until so thin that the liquid could be sprinkled over the plants with a whitewash brush. I applied it three times each for two days; the bugs all disappeared from them; the plants soon put out a new and vigorous growth of leaves, nor did bugs again attack them.

ROB. WHITE, Jr.

Shrewsbury, N. J. 3d mo. 25th, 1839.

Farming in Virginia.

Greene co. Va. March 10, 1839.

J. Buel, Esq.—Sir—At this enlightened day of agriculture, there are numbers of people in Virginia, who cut down and wear out one acre of land, to buy another to cut down and wear out, and, so on. And finally old age creeps on them, and they find themselves only comforted with but a sun of galls and gullies, the fruits of their youthful labor.

"For his shrunk shanks, and his big manly voice,
"Turning again towards childish treble, scisses."

They are no longer able to continue this wretched course; they are brought to rest with this bright example and rich inheritance for their children. Can you not, Mr. Editor, stop them in this wretched system? Can they not be brought to reflect, that their money-purse has a hole in both ends, and that their cash runs out as fast as poured in? Cannot you convince them, that land can be kept at its virgin state, yea, and improved far above it, and at greater profit or saving of labor? I know a number of farms that will not, upon an average, produce two barrels, or ten bushels, of corn per acre, and I overshoot the mark at that. This would appear to you hardly credible, but it is too true.—They certainly do not believe that land can be kept to its primitive state—nor can they believe this exhausted soil can be entirely restored. The new husbandry is what they lack—they do not know how to get out of this old way into the new one. You have the means, and the talents, too, to set them right. This, too, it seems would be a work without faith, for some of them have many fine examples of good farming before them—but some lack enterprise, and others too selfish to take the advice or pattern after others, particularly their neighbors.—And perhaps, Mr. Editor, by its perpetually flowing from you, a foreign and an intelligent source, it may eventually have the desired effect; time will remove the prejudice. For instance, I know a very old gentleman in Albemarle county, who, at one time, (when I was a boy I heard it spoken of,) ridiculed the idea of sowing clover seed—though his land was, I think, then rather under medium quality; but about fifteen years ago, he turned the somerset, and I think I hazard nothing in saying, he is now one of the best and most prolific farmers in that county; his last crop of wheat, I have been credibly informed, was the best in that county—and from the quantity he made, I think two-thirds was the result of the restoration and improvement of his farm. These land killers can see this. Can you not induce them to believe, that it is cheaper to work one acre of land than it is three? I say three, because I think the average crops of new land in Virginia, would be about six barrels per acre, and much far above it. This they would answer as a very simple question.—Why, then, do they work three instead of one, for the same number of barrels? Simply because they have so impoverished their land by this wretched old way.—Persevered in, it takes three acres to produce what they formerly cropped off of one, and in the latter, the expense increased three-fold in every way—labor and money—and but the same result—how large a hole, too, does this make in the profits. The profits are proportioned by the expense. For instance, a few years ago, when I commenced farming, I had a small parcel of flour sold in market at $4 per barrel; here the expense was one-fourth. My last crop of flour was sold at $8, one dollar deducted for carriage; here the expense was one-eighth, which is less than one-half of the expense when sold at four—though apparently the same, but obviously less than half, for when sold at $4, I had but $3 left, and now sold at $8, I have $7 left, which is more than double of $3, for the same expense. Hence it is plain, that as the profits increase, the expense diminishes, and by this rule I work the renovation of the soil. As the land increases in production, in the same ratio the expense diminishes, or even keeping it in statu quo, increase of expense is prevented.

In the above, Mr. Editor, farmer like, I have given you the true practice of many tillers of the soil amongst us; and if you think it might have a stimulating effect in sliding some out of this bad old way into the new one, and preventing others from getting into it, it is at your pleasure or not, to honor it with a place in your journal, which paper I recommend to every brother farmer.

I have now just finished hauling out my manure.—From my horse stables, in February last, I hauled and spread twenty-two four-horse wagon loads of dung upon meadow land. From my barn-yard, one hundred and upwards, of well mixed, unfermented compost, upon the field I intend for corn, which will be spread only as fast as ploughed under. My manure yard is made in the form of a basin, to prevent the liquid from running off. What straw I generally have left, (which will be nearly half this season,) after wintering my stock, &c. I haul out and spread upon my thinnest land one or two years previous to cultivation. This mode of improving land, from experience, is much faster than ploughing the straw under forthwith. Hence I have come to the conclusion, that the additional improvement gained by covering, over that of ploughing under immediately, is caused by the nitre produced by the shade, and hence I have settled down to give my fields two years successively in clover, previous to fallowing for wheat, or ploughing for corn. The above statement of manure is not given to vie with you northern farmers, nor many in Virginia, but to inform your readers what some of us are doing here, and as a criticism upon some of our soil butchers, who only haul out some eight or ten loads of manure, of the old year's making, upon a little piece of land, for tobacco. In former days, in Virginia, he who cut down and wore out his land the fastest, was said to be the greatest man of business—but the dawning change now cocks up his nose at such a one. T. G. G.

Much that is to be Commended.

Maryland, March 21, 1839

Mr. Buel—I notice with a peculiar concern and interest, the statement of the condition and circumstances of "Agricola's" farm. His is not a solitary case—there are hundreds of such, and a system that will help them

will be doing more than all your premium crops on deep limestone soils, or soils made rich to fatness by the facility of obtaining manure from towns. You may playfully throw the "Yankees" at us, and tell us to follow them—but it won't do, sir. We must have legs like them to walk as they do. *You* made a poor farm rich—so say some of your correspondents. But you were in the possession of the *needful*, and your purchase was near Albany, where you could get lime, and ashes, and bone dust, and street scrapings, and stable manure, &c. Any man that would not make his land rich with all these favorable circumstances, deserves to——— have no land.

My experience and observation tell me, that there is a way for a man to improve a large body of land, without forgetting that he has more than fifty acres, when he has nine times that much. Don't make a man feel poorer than he is, and throw him into the pit of despair! There is no necessity for his forgetting any of his land. Come, don't trump up that old tale, that poor land makes a poor man poorer, just in the ratio of the increased quantity of land he owns, and frighten us from five hundred to fifty acres to make us *feel* richer. No, no! Let him look the whole in the face, without fear or despair. But let him have a beginning—a starting point—any thing within the compass of his capabilities to improve—five, ten, fifteen, twenty acres, or more—let the determined quantity be properly tilled, and manured, and cropped so as to pay its way, and then put down in grass.

As to spreading manure on a sod, and ploughing it down immediately, *true* theory and enlightened experience must condemn it; and particularly if the subsoil be porous. If the manure be mere straw, or grass, or other substances, containing little or no soluble matter, it will be better to cover it any way, without being particular whether it be turned down on the subsoil or not; for fermentation must be promoted, and the gases retained. Here all is right. But when the general term *manure* is used, without a particular application, we understand the productions of our stables and barn-yards. Now, in this kind of manure, there will always be more or less matter that will mingle with the rain, and will pass down into the *pan*, leaving the coarser particles to be formed into manure by the process of fermentation. The loss in this case must be equal to the urine and other finer parts of the manure from the yard.

I admit that manure of all kinds ought to ferment *in* the land where it is to be applied; fermentation and drainage in the yard, reduces it both in quantity and quality; and the sooner manure can be got out and properly covered the better. But it must not, if we would get *all* the benefit, be turned down on the subsoil.

But, say you, how is the objection to be obviated, if I intend putting a grass field in corn, on which I would have my manure? No other way than to plough the ground first—harrow well—then spread your manure and *list* it. By forming the *list*, you throw two furrows together, which will nearly if not quite cover all the manure, if not planted too wide; and by the time you harrow your corn, you will find it sufficiently short to mingle with the earth, so as to prevent loss in fermentation. In this way you get the benefit of all the manure, both of the soluble and gaseous particles.

Now, as Agricola is not to forget that he has three hundred and fifty acres of open land, he is to be kept from despair of ever reclaiming the whole. And to do this, he must see how, after having improved one piece, he can apply his resources to another, without suffering that which he has improved to relapse into its former condition. It will be impossible for him to do this, if he entirely depend on clover. Clover is too soon gone. And to have to return to tillage operations, and of necessity, the application of manure, to this partially improved land, will prevent the advancement of improvement very little if any beyond that which he improves the first two years. If he plough, he must apply manure, or there will be a perceptible retrograde. Plough down clover! Let this be done where it can. But there are frequent obstructions, which I need not stop to notice. Now, if in the list of grasses, any one can be found that will be permanent, enduring for years, and tending all the time to the melioration of the soil, that is the grass *mainly* to be depended on by Agricola, in his reclaiming system. Such a grass we have—orchard grass, or what in England is called rough cock's foot—(*Dactylis glomerata.*)

This once lauded—sometimes abused—and now much neglected grass, is the only one with which I am acquainted, that will fully answer this purpose. Its durability is wonderful. From its early vegetation, it gets the ascendancy of all other grasses, and from the quickness of its growth after the scythe, it keeps it. I have always found, that where land was occupied with this grass, it broke up more mellow and friable than any other. After being six and seven years *sett*, it has ploughed like an "ash heap." It does not only *not exhaust*, but positively adds, from year to year to the fertility of the soil. It makes an excellent hay, when cut in blossom, and one of the earliest and latest pastures. You will find in the 9th volume, page 81, of the "American Farmer," some remarks of mine on the utility of this grass as an auxiliary on a grazing farm. What is said there on the comparative merits of clover and this grass, I have for some time past dissented from.

Let Agricola seed down all the land he has properly tilled and manured, with this grass, and let that stand. "So far, so good." Let him take another piece and do likewise, and by this means he will get round his three hundred and fifty acres. His means to support an increase of stock will grow upon him—this will increase the quantity of his manure, and by the time he gets round, he will have the means of doubling his operations. Your advice, to economise and accumulate all the matter that can be turned into manure, must be strictly attended to. Let all the bare parts of the barn-yard be thickly covered with leaves—two feet thick.—Let all the corn fodder be saved, by cutting the corn off at the ground, and let this be cut up in the winter, by one of Eastman's or R. Sinclair, Jr. & Co.'s chaffing machines; so that instead of feeding straw, he may have all his straw for litter and yard purposes. Let him raise mangold wurzel and sugar beet, and *try* a little ruta baga. This last does not often succeed, this side the Delaware river. If his land *require* plaster of Paris, let him use it, and if spared a few years, he may *think of all his acres*, with more satisfaction than despair, any how. Z.

A fact or two on the operation of plaster, as I have yet a scrap of paper unoccupied. I have seen a fine limestone land, after having been reduced by a succession of white crops so that it would not bring ten bushels of wheat the acre, restored in a few years, by the application of plaster. One field of this description I saw the clover hay and seed mowed off three years in succession—then ploughed and bring a heavy crop of wheat. The clover could not have produced this effect as a manure. There are other lands on which plaster makes but little impression. If plaster only acts as food for plants, what can make this difference? May it not bring out the carbonic acid gas, latent and inert, in the subsoil of limestone lands, so it can be reached by the mouths of the plants?

A hit some time or other *may be* on your summer pruning.

A NEW CORRESPONDENT,
BUT AN OLD THINKER.

The Silk Business.

Shrewsbury, N. J. 3d mo. 25th, 1839.

JESSE BUEL—Dear friend—From some notice of the proceedings of the *Convention of Silk Growers*, lately held at Albany, I see that it had decided to form a *State Silk Society*. There has been one organized in New-Jersey, and in Pennsylvania they have a *Sugar Beet Society*. Is it not questionable whether thus dividing the strength of the farming interest into various and distinct associations, will be the best means of establishing permanently any particular branch? If it be not, then those mostly engaged in raising corn, growing wool, breeding cattle, &c. &c. may each get up a society to promote such business exclusively.

I do not see it avowed by those who have associated to further the silk business, that the growing of food for man and beast is to be superseded, or that wool and cotton may not still be used as a part of our clothing; but on the contrary, the producing of silk is urged upon the attention of every farmer, as being an *addition* and an *auxilary* to the ordinary course of husbandry, which if combined therewith, promises to increase the profitable use of land, labor and capital. There is no doubt in my mind, of the correctness of this view, nor yet of the vast benefit already conferred upon the country, by those who have so zealously and praiseworthily labored to enlighten our farmers on this subject. The success of a small experiment made by me last season has encouraged me to increase my investment in the silk business twenty-fold this, and my limited influence has been used to induce others to embark in it

I have been looking for a caution from thy able and ready pen, against the getting up of these separate and unconnected societies, and to encourage the concentration of strength and unity of action amongst us in county and state agricultural societies, as one means of placing agriculture in this country, in proper relative position with manufacturing, mercantile and professional business. If we silk folks would but take our place in agricultural societies, and trust this particular branch to the action of committees, would it not be as effectuly promoted?

Having thus mentioned what I have thought to be a matter of some importance, I leave it with thee, not doubting that if it really is so, it will be duly considered and attended to. Respectfully thy assured friend,

ROB. WHITE, Jr.

Encouragement to Agriculture, &c.

Brooklyn, March 15, 1839.

JUDGE BUEL—Sir—Your zealous and efficient efforts to promote the agriculture of this country, continue to produce results which justify the most sanguine anticipations. Science must be combined with practice, to effect great improvement in any art, especially in agriculture. This desirable end cannot, I conceive, be better attained than by the establishment of agricultural schools, which you so ably advocate. I have been led to this reflection, by noticing the following extract from the late annual report of the Treasurer of the United States:

"It is an interesting fact, that during the last three years, more than $86,000,000 annually, or an average of nearly *nine-tenths* of our whole domestic exports, have been derived from agriculture More than *seven-tenths* of our whole population, are probably employed in that useful pursuit."

What a commentary upon the neglect of this subject, by our State and National Legislatures. It is a lamentable fact, that political strife has engrossed the attention of our Legislature Who are responsible for this neglect? I, sir, can assign the responsibility where it mainly belongs, but where it is rarely charged. The *public press*, (exclusive of agricultural journals) are censurable not only for *failing to aid*, but actually for *retarding* improvement in agriculture. The enactments of the Legislature are made in unison with *public sentiment*: which is controlled by the press. Am I not therefore justified in charging the responsibility upon the press? I have facts, however, to support my case: I will cite but one. The New-York Courier & Enquirer of the 24th March, 1838, after stating that $77,000 had been paid by the State of Maine, as a bounty on wheat, thus remarks:

"It would seem that as in other countries, the absurd notion is exploded, of encouraging by legislative grant, the pursuit of any particular branch of industry; in the United States, it is immediately taken up and acted on. What can be more in opposition to every sound principle of political economy?" &c. &c.

Again, he adds: "And if we mistake not, a similar policy is pursued in Massachusetts, and we believe has even been suggested in the legislature of this state.—Are the people in this country of intellect so obtuse that they cannot discover, without a bribe, those branches of industry?" &c. &c. pursuing the same strain of schoolboy argument, for nearly half a column of his paper.

These, you will observe, are the editorial remarks of a paper, in general, as ably conducted as any in the United States; certainly enjoying the greatest circulation, and possessing, therefore, a corresponding influence. This editor probably does not imagine, that agriculture may be made a science; and would be surprised to hear that the very bounty he so rails at, has been already the means of saving more than its value in wheat, by causing a discovery, by which the destructive ravages of the *weavil* may be arrested.

The formation of county agricultural societies, is another powerful aid to agriculture. The combined efforts of these societies and the public press, would soon place agriculture in the high station among the useful arts, to which she is justly entitled. To effect this desirable object, I suggest, whether it would not be advisable that each county agricultural society, should appoint a suitable committee to awaken the public, through the public press, to the vast importance of agriculture to this country.

Pennsylvania, Ohio, and many other states, are far ahead of this state in the improvement of farm stock. The high price of the improved breeds, places them out of the reach of our farmers. This must necessarily be the case, while our great breeders are endeavoring to raise only the *pure blood*.

True policy dictates that we should obtain a good breed by *crossing*, while we at the same time, obtain the best breed from the pure blood.

The great improvement in our horses, was effected by carrying studs of blood, to "stands" through the country. The same course might be pursued with the improved breeds of imported bulls, Berkshire boars, &c. &c. In this way, the attention of our farmers would be led to improvement in breeds; they would be better enabled to appreciate the good breeds, and would thus gradually acquire a desire to improve their own stock. Breeders would thus sooner experience ready sales of the high priced stock, and would, I have no doubt, even benefit themselves, by establishing such stands *gratis*.

In the last November number of the Cultivator, your correspondent, Mr. John Bodden, of Poughkeepsie, states that nearly seventeen acres of his corn were destroyed by the grub worm, although the corn was soaked in saltpetre, which he observed had been stated in the Cultivator as a preventive.

On Long-Island, and in New-Jersey, a worm very similar to the grub worm, has been very destructive to corn for the last two seasons. As very little has been published in relation to this worm, and as it may be desirable to preserve a record of their visit among us, I will briefly describe them. In the month of May, 1837, this worm commenced the work of destruction in our corn fields. It resembles the common grub in size, colour, and general appearance; both are a light gray colour, with red heads. The grub has legs only near its head; this worm, however, is legged as a caterpillar: from head to tail. The grub has a rough, serrated skin; this worm has a smooth, glossy skin. The grub preys upon roots; this worm upon the stalk, under, though near the surface of the ground. In 1837, my corn was planted early, upon an old sod, which was so infested with this worm, that I was obliged, for more than a month, to go daily through the field, pulling out the worm and replanting the corn, where necessary.—In some cases, corn of the third and fourth planting, was destroyed by these persevering rascals.

Their presence in a hill is easily detected, by the withered appearance of the stalk eaten off by them.—The low and wet parts of the field were free from them, while the dry and sandy knolls in the same field, were overrun with them. They disappeared about midsummer. In 1838, they were less numerous. One of these worms ate through a stalk of corn three quarters of an inch in diameter, and two feet five inches long.—One of my neighbors says, these worms, about eighteen years ago, were as numerous and destructive as lately, and that they disappeared after a visit of two or three seasons. They were called, he says, *tiger worm*. Wolf grub, I think, would better designate their voracity.

With regard to soaking corn in saltpetre, my experience fully proves its efficacy as a security against birds. In 1836-7, tame pigeons and crows fattened upon my newly planted corn, despite of fowling-piece and scare-

crows. In 1838, however, I soaked my corn, as you directed, in saltpetre, to quicken germination, and as a security against birds. To my delight I found that pigeons, crows, and barn-door fowls, left the corn unmolested; though they all, at first, tried to acquire a relish for saltpetre. And here it is but justice to say, that I have been remunerated twenty fold for subscription to the Cultivator.

I fear I have intruded too much upon your valuable columns. I will only add a question: Have you proved the short horned Durhams to be good milch cows?

By the bye this privilege of questioning, is no inconsiderable benefit to the patrons of the Cultivator, though it doubtless imposes on the kindness of the editor.

BROOKLYN.

Inducements for entering on Rural Pursuits.

Greenfield, Mass. April 2, 1839.

Mr. EDITOR—In speaking of the inducements that present themselves to young men, for embarking in agriculture, we cannot forbear saying a few words with regard to the pecuniary profits that are held out. We do this, not to feed that love of money making and money getting, in which most of our citizens seem all absorbed, and which we are almost ready to pronounce our country's greatest curse, but rather to obviate an objection that is often urged, that but a very scanty and uninviting livelihood is to be obtained from agricultural pursuits. And on this point, let not the profits resulting from the present system of farming be, by any means, taken as a criterion. The ignorance of our farmers, and their prejudices against improvement, preclude them from reaping more than a tolerable subsistence, and we think we do not exaggerate when we say, that our present agricultural products might be more than trebled, by a more enlightened and liberal system of culture. Besides, these products will always find a market. They consist of the necessaries of life, and so much greater, at the present moment, is our consumption than our production, that we are obliged to go abroad to find the wherewithal to feed our citizens. In this, as in every other pursuit, the profits must be in proportion to the skill, industry and intelligence of those engaged in it. The gains of the farmer cannot be rapidly acquired from the nature of his profession; they are generally not inordinate, as more capital is required for extensive agricultural operations than most men can command: but they are sure, and are amply competent for the wants of life, and all the luxuries and gratifications, that mind or body need demand. They are uninfluenced by the changes, that are engendered by the speculations of business men, and politicians, and, when restricted at all, are so by the ignorance or blunders of those dependant upon them.

But we wish to view the subjects from higher grounds than those of pecuniary interest. We find one of the greatest charms of an agricultural life in its perfect independence. The farmer's prospects stand unaffected by the many fluctuating relations of society, and depend, in a great measure, upon his single energy as directed to the operations of nature. His hopes and fears are not gauzed by every breeze that blows in the mart, and the political arena. He feels, or ought to feel, that his pursuit is the corner stone of all others. He *creates* what the manufacturer works, the merchant barters and the ship master conveys to the different quarters of the globe. He draws from the bosom of the earth the very food of commerce and manufactures. And hence the dignity of agriculture. Its powers are creative, while most other professions are merely constructive. It elicits ten thousand products, that otherwise might never have existed, and which are remodelled in the hands of the mechanic, and converted into cash by the merchant. And this great independence of other pursuits cannot, we think, but create a corresponding independence of character in those engaged in agriculture. It must engender a freedom of thought and action, so desirable for mental development, and which is so often crushed in other callings, by their subserviency to each other.

We particularly admire the character and influence of rural pursuits. Very many, we know, view the farmer through the medium of the plough, the harrow and the spade, and make the most drudging details of his pursuit a criterion by which to measure his profession. For this, it must be allowed, there is in many instances too much cause. But we are urging the choice of an agricultural life on different grounds. It is the character of the men engaged in it, and not of the profession, that gives a dignity and weight to it. The most noble pursuit may be disregarded by the ignorance and baseness of its votaries, and the most humble may be elevated and dignified by education and intelligence. The culture of the soil is becoming a *science*, and one of the noblest of all sciences. Study and discipline are made its ground work, and the structure is raised on the most liberal principles, united with taste and refinement. Natural science in all its departments is made subservient to it. Chemistry, mineralogy, botany, vegetable and animal physiology, mechanics, &c. &c. are constantly in action in all its operations, and their practical application develops every energy of mind or body. New wonders are ever being disclosed, and the harmony of nature brought to view, and that excitement and interest, so necessary in all pursuits, is constant, high toned, and healthy.

We have already spoken of the unadulterated pleasure to be derived from rural pursuits, and we appeal to those who have had the advantages of experience, to correct us if we have advanced any thing beyond the truth in urging the choice of an agricultural life. We offer these imperfect considerations at this time for various reasons, and among others because we see a due sense of the importance of agriculture is beginning to be felt by the public, and a strong desire manifested to elevate its character, and we should regret that this desire should be disappointed from the absence of those, who might meet the wishes of the public. There is a want of pioneers in the cause of those who may disseminate the discoveries of science and the observation of others in the culture of the soil, and impress their utility on our whole farming population. If the public spirited intentions of some of our leading agriculturists are carried into effect in the establishment of an Agricultural School, an opportunity not to be lost offers to those of our young men, who are willing to turn aside from the dazzling visions of wealth and office to the more quiet but not less honorable and dignified duties of the scientific farmer.

H. V.

Proposed mode of Planting Corn.

Petersham, Feb. 26, 1839.

Mr. BUEL—I have a piece of green sward which has been mown six years. I wish to take it up in the spring, and plant it with corn. The soil is a dry, stiff, yellow loam; and it has been the practice about here to plough the land both ways, and harrow it down; dung it in the hill and plant it. I told a book farmer in Hardwick, that I thought I should try the new way about planting time, to spread on a large quantity of barn yard manure, say twenty five or thirty cart loads to the acre, as I have a plenty of it; then turn it over as slick as I can, roll it down; harrow it with a harrow that has short teeth, mark it out into rows both ways, and plant it. As soon as it is large enough to weed, to go through with the cultivator both ways, and then with the hoe, alternately; the gentleman told me that I should not be successful; that if it should prove to be a dry, warm summer, the sod would not decompose in time to furnish the food that the young plants require; that turning over a green stubborn sod with so much unfermented manure, it would firefang, and that the grub worm would be a great deal more likely to injure it, and he thought that I should have a very light crop. I should like to have your opinion through the columns of your paper.

I have another piece of one acre, the soil the same, which I wish to plant with carrots. Three years ago it was a clover ley. I spread on to it a very large quantity of manure two years ago, and ploughed it very deep, say twelve or fifteen inches; then crossed it and harrowed it; furrowed it out, and dunged it in the hill with fine manure, and planted it. I had a very great growth, but the frost came so early that I lost it entirely. Last spring I ploughed it, and it was very light; I sowed it with four bushels peas and oats, two thirds peas; ploughed, harrowed and bushed it, and it was perfectly pulverized like a garden; I also seeded it with timothy and clover. It all came up very fine; the oats grew very rank, and soon began to lodge. I had so much to do, that I let them stand too long, or rather lay, for it took three hands one day to mow them. The weather was bad, and I had to turn them three times. I had four very large loads of straw, and fifty-seven and a half bushels of grain; and I should think there was left on the field as much as ten or fifteen; but if you think this land would bear a good crop of carrots, I should like to know the best way of raising them. Respectfully yours,

D. C. PAIGE.

REMARKS.—If the manure had been spread, and the ground ploughed last fall, it would have been better. But as it is, spread the dung and plough early; if the dung is unfermented the better. Do not plough *slick*, if that means a flat furrow, but lap the furrow-slices on to each other, and if the surface is horizontal, gather the land into ridges for three or four rows. If the furrows are lapped, and then well harrowed down, the injury and inconvenience from rain and from grass will be sensibly diminished. The dung, if spread, will not fire-fang, nor is much to be apprehended from the grub—which will feed upon the green matter turned under. The second piece of ground will be in good condition for carrots, though had the soil been more sandy it would have been preferable. See our directions for culture in another column. Will Mr. P. advise us of the result of his experiments?

Directions for making good Mortar.

Schenectady, 5th April, 1839.

DEAR SIR—Until the Society for promoting Useful Knowledge, shall be in active operation, the Cultivator appears to be the proper vehicle.

Soon after the great fire in the city of New-York, in December, 1835, I noticed an inquiry in the Commercial Advertiser, "whether the art of making good mortar had been lost," as in the modern built brick buildings, the mortar "did not connect and adhere to the bricks." I wrote, and stated the former and modern method of making and using mortar, and it was published in that paper.

As inquiries on this subject are frequent, and as it is painful to see the impositions practised on those who employ builders, without knowing how to guard against deception, I will give the opinion I have formed, by long observation, and some practice in erecting buildings.

Formerly, hard burnt bricks only, were used for building houses. The bricks were put into a tub of water, kept on the scaffold for the purpose; and when saturated with water, they were handed by the laborers to the mason, who laid them into the wall. Walls made in this manner, when taken down, a crowbar and hammer must be used with force, to separate the mortar from the bricks.

It was noticed by persons who were present at the great fire above quoted, that some of the new brick stores then lately built on Exchange Street, when partly burnt, fell down; and the adjoining buildings, to which the fire had not extended, fell after them.

A few years ago, the six story brick store of Messrs. Phelps & Peck, on the corner of Cliff and Fulton-streets in New-York, fell down, and crushed several persons—an awful sight and calamity. I was in the city, and passed by the store, about one hour before the fall. It was observed, that the bricks separated from the mortar, as clean, as if they had not been laid in the mortar, and the mortar was fine, like dry sand.

Modern brick walls, are chiefly made, not of hard burnt, or what are called weather bricks, but what are called salmon, or half burnt, or imperfectly burnt bricks. These bricks are brought dry, and in some instances, *warm* from the kiln, and laid immediately in the wall. The moment such bricks are laid on the mortar, they absorb all the water from the mortar, as quick as a flash, leaving the mortar merely damp. The mortar when dry, will be soft, and the wall may be taken down with the hands, as there is no cohesion in the mortar. If the bricks are saturated with water, before they are laid in the wall, even such bricks of inferior quality, will make a tolerable wall, though not so strong as of hard burnt bricks.

This is the mode of erecting buildings all over the country, because a little labor and expense is saved, by not wetting the bricks. Too much mortar is often used. Enough to fill the seams and make a solid body, is best.

Those for whom buildings are erected, particularly in the city of New-York, in general, are as ignorant as children, of what constitutes the difference between good and poor walls. Placing perfect confidence in masons, carpenters, builders—as they do in lawyers and other professional men, they get a building for a little less money, and a very little less too; and in some cases, it falls down before it is finished and off the hands of the builders, when the walls are only of the thickness of the width of the bricks, as they frequently are, particularly when against another building, to hold them up.

Another fault is, in making mortar of loam or quicksand, (common in some places,) instead of clean and coarse sand.

One part of quick stone lime, and five parts of clean coarse sand, will make good mortar for brick or stone walls.

The masons object to much sand and little lime, because the mortar will be short and crumbly when used, particularly the over-head ceiling, but when so made and put on, it will be twice as hard as if otherwise made. The loam and more lime, make mortar much more easy for the mason for plastering ceilings. The quantity of lime wanted, is merely to fill the interstices, and make of the sand a solid body, for strength.

When masons want a winter's job, they will tell you that the mortar will *freeze dry*, and be as good as when laid in summer. Such masons, if honest, are not philosophers, nor will philosophers believe and employ them.

In the March number of the Cultivator, it is asked by a subscriber, "What is the best method known among our builders and mechanics, of protecting north-east brick walls, and generally, of keeping stone and brick walls dry." Hard burnt bricks, called clinkers, will not absorb water. If north-east walls are made of such, or covered with boards, water cannot penetrate them. But few persons understand the difference in the quality of bricks. Street pavements made of clinker bricks, will last an age and be dry, except while it rains.

Stone walls are liable to be wet, by condensing moisture from the air, when the atmosphere changes suddenly to a warmer temperature. Respectfully,

DAVID TOMLINSON.

Clover Machine.

Courtland, Ala. March 27th, 1839.

The re-appearance of a paragraph, in a late number of the Cultivator, describing the machine for gathering clover seed, used by M. L'Hommedieu, constructed with an open box and teeth in front, suggested to my mind the propriety of informing you of a trial made of one, made from the same description, published perhaps in the 4th volume. This experiment was a complete failure. The shafts were fastened to the ends of the axle-trees outside the wheels, which were eighteen inches in diameter; which left the body completely under control of the driver, to be raised or lowered at pleasure, according to the growth of the clover. On putting the machine to work, the clover-heads and stalks, in a few steps, choked up the teeth, so that the driver was compelled to stop and relieve them; and this happened so often, that I determined to attach a revolving cylinder, with four steel knives, just above where the choking took place, according to a suggestion in the Farmer's Register. This cylinder was driven by a three inch band, running on a notch on the inside of the wheel, twelve inches in diameter. The addition was beneficial in some degree, but the original objection of choking continued to be so inconvenient, that the machine has been laid aside as a complete failure. Very respectfully,

JAMES E. SAUNDERS.

Rotation of Crops.

Putney, Vermont, April 6th, 1839.

Mr. BUEL—Sir—Having been for some time a regular subscriber to the Cultivator, and having practised in the rotation of crops, for the last twenty years, I deem it a

duty I owe to the public, to speak on the occasion—to add my testimony and experience to what has been published in your valuable paper. My farm is situated on the bank of Connecticut river, and is fast returning to that native purity and fatness, for which these lands were once noted. My land, in 1815, when it came into my possession, poorly paid for cultivation, owing to the successive croppings, without grass seeding, until it would not return a crop, and was left in common to diseases and mullin. I am thus particular, in order to show the downward course a farm will take, if there is nothing returned to the soil, by successive croppings. I commenced in June, 1815, to summer fallow my poorest land, and first of September sowed it to rye, and seeded it to Dutch clover, as the southern clover was not known among us then. I purchased one ton of plaster of Paris, which was just beginning to be used in this section of country—of which, I sowed a bushel or more upon an acre. I had a fair crop of rye. The next year I commenced another ten acres of fallow, in the same course. My clover did well on the first piece. I sowed another bushel of plaster of Paris in April, after I took my crop of rye off—and first of July, I ploughed under the clover, and a heavy job it was. In September, I ploughed it again, lightly, and sowed it to rye, and seeded it to clover and herds-grass. The next year I mowed it—the next year, I planted it to corn; and the next year I sowed it with oats. My next crop was rye, and seeded to clover as before. At the same time, I was bringing up other lands in the same way, and with equal success, until I had brought all my farm into this mode of cultivation. For the last ten years, I have left out the crop of rye, as not so profitable a crop—and left my land heavier, and adopted a three course system, which I think is the better way. I have only to sow my oats early, in order to seed clover, which takes surer and better when sown early than late. I have used plaster of Paris freely on my grass crops and corn land. I use a roller on my oats, as I always have seeded to clover all my small grain crops, which I think much of, both for seeding and rolling down the ploughing before planting. I use the southern clover, which is much the best for rich land in the rotation of crops, as you get the first crop for hay, and of a better quality than the Dutch clover, and the second for seed, which is a clear profit, and a good one this last year, as it is worth twenty dollars per hundred pounds, and 200 lbs. is our average crop.

I use my manure in its green state, and plough it under as soon as possible; as I plough all my planting land, and plant as soon after as possible, I am not troubled with worms but little. When I mow but one year, I prefer planting early, and much thicker than is generally practised.

My experience in making manure, may be worth communicating, as it is to me an important branch of agriculture, and should excite the energies of all farmers. I have yards attached to my hog-houses, that the hogs may go in and out at leisure; these I keep supplied with soil, loam, or muck from swamps, with a good quantity of straw, or litter from the barn-yards, which every good farmer has for the occasion, from which, by care and some labor, almost any quantity of manure can be made, and that which is good. I have only to add soil, weeds, straw, green clover, summer manure, or any, or every vegetable substance, as all are acceptable to the hogs, who are very industrious, and will manufacture more manure in value, than their expenses in keeping. I feel that my position is good—that my lands are continually increasing in fertility. If any of it flags, or decreases in richness, I have only to plough in a crop of clover, and it immediately takes its place among my richest lands.

Thus you will readily see, that where lands will produce clover, by the aid of plaster, there is no trouble in raising land to a high state of cultivation. I have always returned to my lands all my crops, except my grain, which I market, except what is needed for farm stock &c. With much esteem, THOMAS WHITE.

Curing Hams.

Hanover, Mich. March 7, 1839.

JESSE BUEL, Esq.—Sir—Having had the perusal of your valuable paper from the commencement, I beg leave to present to the public, through its columns, my manner of preserving hams. I turn my barrel over a pan, or kettle, in which I burn hard wood, (commonly hickory or maple,) for seven or nine days; keeping a little water on the head of the barrel, to prevent it from drying. I then pack two hundred weight of ham in my barrel, and prepare a pickle, by putting six gallons of water into a boiler, with twelve pounds of salt, twelve ounces of salt-petre, and two quarts of good molasses; this I stir sufficient to dissolve the salt, &c. and let it boil, and skim it. I then let it cool, and pour it on my ham, and in one week I have smoked ham, very tender, of an excellent flavor, and well smoked. When the weather becomes some warm, there will a scum rise on the pickle; by keeping my ham under the pickle, it will keep the year round.

N. B. It is better to have a *good* white oak barrel than any other. Try it, and if you ever have had meat smoked earlier after killing, and more palatable, please inform the public through the columns of your paper, and oblige a subscriber. Yours, &c.

H. FOWLER

JUDGE BUEL—Dear Sir—I send you a copy of the within directions for using urate and poudrette—if you are of the opinion it is of sufficient importance to the agricultural interest to publish it in the Cultivator, you will do so. I think highly of it myself, and intend to make some experiments on it in the ensuing season, and propose to submit the results to you for publication.

Very respectfully, your most obedient
A. DEY, 63 *Cedar street.*

New-York, 7th March, 1839.

Urate and Poudrette.

The attention of the public has recently been directed to the use of *urate* and *poudrette*. It has long been known in France, as the most efficacious of all manures, and the few experiments made the last year (1838) in the use of *poudrette*, in and around the city of New-York, has awakened the attention of farmers and gardeners. The Royal Academy of agriculture in England have caused experiments to be made of the respective power of the different manures, and upon the trials so made it appears beyond a doubt, the superiority of manure, made from sinks and privies, over any other productive agent for agricultural purposes.

DIRECTIONS.

The following directions are given by *Peter Barthelemy*, (who was one of the first discoverers, in France, of the present system of preparing the articles,) how and in what manner it should be applied, and who recently has introduced its manufacture in the city of New-York

Urate is the product of the *liquid* part, and *poudrette* of the *substantial* part of sinks, or privies, both of them reduced by different processes, to a dry and inodorous substance, and used as the best of all manures known to the agriculturists or horticulturists; *being animal manures of the richest kind, and the most powerful of any application that can be made to the earth.*

URATE.

The urate may be used in its dry state by spreading it on the land as you would lime or ashes, *or* after having been dissolved in water, may be used through a watering pot, or by a cask, on cart wheels, in the same manner as the streets in the city of New-York are watered in summer.

For all kinds of small grains, such as wheat, rye, oats, barley, flax, and others of a like kind, it may be sowed dry, upon the soil in the proportion of 12 to 18 bushels per acre, according to the quality of the land.

For *corn* and *potatoes*, and such like, it is best to mix the urate in an equal quantity of dry soil, and put in the hill about a gill, or handful, sprinkled round the seed corn and potatoes, as is usually done with ashes.

For beets, turnips or other vegetables, sowed or planted in drills, the urate is to be prepared in like manner and sowed in the drill.

For grape vines, fruit trees, forest trees, flowering trees, flowers; also for garden vegetables, such as cauliflower, cabbage, melons, cucumbers, and the like, *urate* is dissolved in water, in the proportion of one pound to a gallon of water, and poured on the subject; *one application* is sufficient: and for articles not herein enumerated, it may be sowed dry on the surface of the ground.

Where the land retains water, during the *winter*, *urate* must be used only in the *spring*, in order that its salts may not be absorbed in too large a quantity of water.

Where the land is dry, or does not retain water, during the winter, *urate* may be used in the autumn; if however the sowing takes place, shortly before the hard frosts, it is better to use urate only in the beginning of spring.

As a *general rule*, more urate is required upon the same quantity and quality of land in *autumn*, than in the *spring*, if used in the *spring* it is better to apply the urate in a damp day, or immediately after a heavy rain, if it cannot be applied shortly before the rain.

There is a great advantage in *soaking corn* or other *grain for one hour only* in a strong solution of *urate* before planting or sowing it, the corn or grain will *start sooner*, be stronger and less liable to attack by worms or birds.

POUDRETTE,

Is to be used, in the same manner as urate, with the following exceptions, namely; the *quantity* must vary from 18 to 35 bushels per acre, according to the quality of the land, less than 18 bushels to the acre may not be very satisfactory, and more than 35 is useless.

Poudrette is never dissolved in water before being used, as is urate, but in other respects, it is used, in its dry state, or by mixing it with dry soil in hills or drills, or sown broadcast, as lime or ashes.

The difference of the season, between spring and autumn, and the state of the atmosphere are to be considered, before using either urate or poudrette; damp weather is always to be preferred. Neither of them contain any seed of weeds of any description; an application of urate and poudrette once in every three years is sufficient.

Urate and *poudrette* may be sent to any part of the country in barrels or bags, barrels to be preferred, when it is liable to get wet. Orders may be given, post paid, directed to "*The New-York Urate and Poudrette Company,*" *Box No.* 1211 *post-office, New-York.*

The urate and poudrette, made by this company is not confined to distribution among its stockholders only, and therefore farmers and gardeners may expect a supply in the order in which their application is made without any condition of becoming a stockholder, or advancing any more money than may be sufficient to purchase what they need.

The public should be on their guard in relation to the use of the poudrette, as it is feared, it may be brought into disrepute by other manufacturers of the article, where quantity, rather than quality is considered most desirable.

It may be that on trials of urate and poudrette, a different application may be found more desirable; in such case it is hoped the experimenter will make known to the public his discovery.

FURTHER TESTIMONY.

Dr. Granville, in his report to the Thames Improvement Company, in speaking of the immense source of agricultural wealth which the sewers of London afford, but which is now worse than lost, makes the following statement of facts furnished by them.

If a given quantity of land sown, and without manure, yields three times the seed employed, then the same quantity of land will produce 5 times the quantity sown, when manured with old herbage, putrid grass or leaves, garden stuff, &c; 7 times when manured with cow dung; 9 times with pigeon's dung; 10 times with horse dung; 12 times with urine; 12 times with goat's dung; 12 times with sheep's dung; and 14 times with night soil, or bullock's blood Or in other words, an acre of land sown with two bushels of wheat, without manure, will produce 6 bushels; 10 bushels with vegetable manures; 14 bushels with cow dung; 18 bushels with pigeon's dung; 20 bushels with horse dung; 24 bushels with goat's dung; 24 bushels with urine; 24 bushels with sheep's dung; and 28 bushels with night soil, or bullock's blood. But if the land be of such quality as to produce, without manure, 5 times the sown quantity, then the horse dung will yield 14, and the night soil 19¼ the sown quantity; or land that will yield without manure 10 bushels an acre, manured with horse dung will produce 28, and with night soil about 39 bushels of wheat per acre.

These results, and multitudes of recorded experiments, prove that they in no case vary far from the facts, show the immense superiority of night soil, or Flemish manure, over any hitherto employed. In addition, Dr. Granville found that some crops which yield large profits, and are so extensively cultivated in Flanders, can only be obtained in abundance, and of the finest quality, by employing what may emphatically be termed Flemish manure in the preparation of the soil.

Another important matter in the comparative value of manures, and of essential practical interest to the farmer, has been established by the same authoritive investigations; and that is, that while night soil has produced fourteen times the quantity sown, where horse dung has yielded only ten—the proportion of the former, or Flemish manure, was, to the horse dung employed, only as one to five; so that with one ton of the Flemish, a larger produce was obtained than with five tons of the best stable manure.

Defence of the American Society for the Diffusion of Useful Knowledge.

CONCLUDED.

This communication has already reached such a length, that we shall say but a very few words, on the only other subject, which we proposed to touch; the character of the published library.

Your correspondent observes, "Many of the volumes are excellent works in their way; but most of them are not adapted to the capacities of the young;"—and your own remark is, that they are "wholly unsuited to form the *basis* of a common school library for an agricultural population."

The circumstances under which that library was published, have been mentioned; and it is only necessary, to refer you to what has already been said, and to remark here—that the library published, was never offered as specimens of what the society proposed to produce in the way of school libraries; such libraries, as the society well knew, could not be produced without the means requisite to employ capable men in producing new books, and re-modelling old ones.

As to the character of the books—we think an examination of them, will show many of them to be intelligible and interesting to the most youthful readers at our district schools, and scarcely one above the capacity of the elder pupils. The objections too, that are made, are not for any bad qualities which the books have, but for the absence of certain qualities which they ought to have possessed; no one has denied, that the books are valuable as books, but they are not considered as possessing all the qualities which should be found in such publications. We could add more than this negative praise; we could mention those, whose names have added lustre to some of most lofty stations both in our state, and in our national governments, who have examined the published library, and have given it their most unqualified approbation. But we have no wish to discuss the character of those books; they are before the country, and the people may judge for themselves. All that we ask, is, that the library may be judged with reference to the circumstances under which it was prepared: that the motives which led to its publication may be appreciated; and that it may be considered not as a *basis* of a common school library, but as a commencement of a new undertaking, made under peculiar difficulties, prepared to meet a peculiar emergency, which would not admit delay.

We make these statements, not, from feeling that our conduct calls for justification; but, because we are not willing, that a combination of means, the result of great labor, and capable, as we believe, of effecting great ends, should be rendered useless, by a misconception of our proceedings, or a misconstruction of our motives.

We embarked in this cause, under a sense of duty; we have devoted to it money, time, and labor, under a feeling that we were bound to do what we could to supply the great want of our country—a want, which every reflecting man sees, and every good man desires to remove. We have, after much exertion, provided means, which we believe, if carried to perfection, will be commensurate with the great objects we wish to effect: we shall proceed in using our utmost powers in perfecting those means; and should we fail, however much we may regret not having accomplished what we had hoped for our country's good, we will have the satisfaction of having done our duty in this great matter, and will have relieved ourselves from all responsibility for our failure, by having done all we could to ensure success.

But we shall not fail. An interest in education, has always been a predominant one in the minds of the American people: and every day are we receiving from different quarters of our country, encouragement to go on in the work we have undertaken. Arrangements are making, which will soon produce a library possessing those qualities, which the inauspicious state of the times, prevented our giving to the first series; and the benevolent and the patriotic, are responding cheerfully to our applications for pecuniary aid.

We call upon every lover of his country, to aid us in our undertaking; we ask him to examine for himself, whether the measures we have adopted, are, or are not adapted to the ends we propose; and should there be any thing erroneous, or any thing defective in our plans or proceedings, we ask his friendly counsel and advice, and while he corrects our errors, to do justice to our motives: But should he find, that the means we have selected, are well calculated to elevate the character of our national education, and to extend its limits, we do not solicit as a favor to ourselves, but rather demand, as a duty to his country, to his children, and to himself, not to stand an idle spectator of our proceedings, still less, to throw obstacles in our path—but to exert to the utmost the powers which God has given him, whether talent, wealth, or influence, in co-operating with us in the great enterprize of extending the benefits of sound education throughout our whole land. *New-York, March* 1st, 1839.

On behalf of the Executive Committee.

JAMES BROWN, CORNELIUS BAKER,
THOMAS COCK, ROBERT KELLY,
JOHN T. GILCHRIST, GEO F. ALLEN,
A. P. HALSEY, CHAS. SAM'L. STEWART.

Statement of Receipts and Expenditures of the American Society for the Diffusion of Useful Knowledge, up to March 1, 1839. (The book of subscriptions made in Western New-York, being in the hands of the Agent who collects in that region; the amounts therein mentioned, are not included in the statement below. The actual receipts of moneys, by that agent, have not been equal to his expenses.)

SUBSCRIPTIONS.		SUBSCRIPTIONS.	
James Brown,	$1,000	John Sergeant,	$5
J. T. Gilchrist,	300	J. M. Porter,	5
S. V. Renssalaer,	500	Geo. McKean,	5
James Wadsworth,	100	David Potts, jr.,	5
Jacob Abbott,	100	M. W. Baldwin,	5
Peter G. Stuyvesant,	200	J. C. Biddle,	5
A. Barclay,	25	James Wadsworth,	10
George Douglass,	200	J. J. Astor,	200
Thaddeus Stevens,	100	James Roosevelt,	100
C. Bartlett,	5	James G. King,	20
G. P. Oakley,	5	Samuel Ward,	20
William Brown,	5	William Kemble,	5

Total amount of receipts, ... $2,925

EXPENDITURES.

Paid for printing, binding, and stationery,	$143 58
" " rent,	138 50
" " postage,	39 50
" " actual expense of secretaries,	1,399 54
" " agencies,	162 33
" " travelling expenses,	196 38
" " expenses of secretary,	132 40
" " rent,	65 00
" " custom-house expenses,	11 07
" " printing and stationery,	17 02
" " postage,	26 82
" " agent,	50 00
" " advertising,	7 14
1839, March 1,—Balance in treasury,	233 71
	$2,925 00

EXTRACTS.

[*From the New-England Farmer.*]

We proceed in the publication of Premium Farm Reports—intending to give them to the public with as much despatch as the state of our columns admits. They will be read, we are pursuaded with much interest. We give them without regard to any order, as is most convenient; but we shall very soon wind off the worsted. The subjoined account is from Mr. Fay, in Southboro', who received a gratuity of fifty dollars. H. C.

A SCHEDULE OF PETER FAY'S FARM, SITUATED IN SOUTHBOROUGH, IN WORCESTER COUNTY, MASS. 1838.

Question 1. Answer—one hundred and fifty acres.

2. It consists of loam, gravelly loam and gravel, and under the stratum a clay gravel.

3. The best method of improving my land—the *plough* is decidedly the best.

4. I till about eighteen acres, and I put twenty-five loads of manure to an acre on that which I plant with corn and potatoes.

5. I apply it both in its long or green state and in compost.

6. I do both spread and plough in the manure put upon fields to be planted with corn and potatoes, and also put it into the hills.

7. My method of cultivating green sward is by ploughing it at any part of the year, and of frequently harrowing the same the year previous to its being planted.

8. I mow from thirty to thirty-two acres of upland, and averaging two to two and half tons to an acre,

9. I irrigate about four acres, commencing about the first of May, and allow the water to flow about one month, and I think I get about one-fourth more in quantity, and the quality not as good.

10. I do manure the land that I irrigate, and a part of my other land that I mow, once in two years, and I put twelve loads of compost manure to the acre.

11. I have mowed about ten acres of land not suitable for the plough, and the quality of the hay very ordinary, and producing more than five tons upon the same the present season.

12. My method of reclaiming my low land has been to dig out the stones and then to smooth or level the same, and give it a top dressing of loam or gravelly loam or gravel and then compost manure, and by seeding of herds grass, red top or clover, and roll in the same. On bog or peat meadow I never have performed any operations.

13. I have planted nine acres of corn the present season; my method of preparing the ground has been, of ploughing the same fine in the spring, then harrowing it, then carting on my manure and spreading it, then ploughing in the manure fine, and then rolling the land where it will admit, if not bushing it. Six acres of it I have cultivated in this way, by putting ten loads of long or green manure to an acre, and fourteen loads of compost manure in the hills, and planted the same in hills three feet and six inches apart each way. And on the three acres in addition to the ten load of long or green manure to an acre, I spread fifteen loads of compost manure to an acre, by putting the loads between the long or green manure, and ploughing in the same, and not manuring it in the hills; hills four feet and six inches apart from east to west, and three feet apart from north to south. I soaked about one half my corn in water about twenty-four hours and rolled the same in gypsum; the other half I planted dry without any preparation. When I planted my corn I put a table spoonful of gypsum into each hill, and when the corn had come up I put six bushels of wood ashes, lime and gypsum around the corn upon the hill, in the proportion of one half ashes, one fourth lime and one fourth gypsum to an acre upon the said nine acres. I used the cultivator instead of the plough among my corn and hoed the same three times, and made the hills of a small flat form.

14. I have planted five acres of potatoes the present year, four acres of which I ploughed the land fine in the spring, then harrowed it, ploughed it the second time fine, then spread twenty loads of compost manure on the acre and harrowed it in, furrowed the ground four feet and six inches apart north and south and three feet apart east and west, and planted them the first week in May, when the ground froze every night, and on the north side of the wall the ground did not thaw through the day; when I planted the potatoes, I put a table spoonful of gypsum into each hill, and when the vine made its appearance through the ground, I put twelve bushels of wood ashes, lime and gypsum on the hills in the proportion of one half ashes, one fourth lime, and one fourth gypsum; I ploughed and hoed them three times. The produce was one hundred and sixty bushels to the acre. The kinds, a part of them a red potato called among us here the Rutland, and a part of them were the blue potato: the soil a gravelly loam.

The one acre was a green sward ploughed in about the middle of May, this spring, then harrowed the land and spread twenty-five loads of long or green manure to the acre, and planted it in rows three feet and six inches apart each way; ploughed and hoed the same twice: the soil was a gravelly loam: the produce one hundred bushels to the acre. The hot and dry weather in the month of August, was very severe with my potato crop upon both fields, and the product not half of an usual crop. The kinds of potatoes were the same as planted upon my other field.

15. I have among the corn in one of my fields of about three and a half acres, the English turnip, where my corn was very much injured by the cows, and the growth is extremely promising, but I have not harvested them now.

16. None this year of winter grain; of spring grain three acres and three quarters. The ground was prepared by ploughing it fine, then harrowing it; then cross ploughed it, then rolled it, sowed the grain and got it in with the cultivator; put no manure upon my land in the spring; the land the season previous having been planted with a potato crop, sowed two and a half bushels to an acre. My grain was all of wheat of the Black Sea kind, except one half bushel, and that was of the Italian: the soil of a gravelly loam of a hard pan bottom: my method of preparing the grain was by washing all the foul seed therefrom, then put the grain into baskets and let it drain until dry, then put the grain into tubs and soaked it in as strong a solution of salt and water as could be made to dissolve in the water at a heat of one hundred and twenty degrees, and soaked the same ten minutes, then took it out upon a floor and raked in as much of dry lime as would adhere to the grain. When the grain was up about three or four inches in height, I sowed eighteen bushels of wood ashes, lime and gypsum in the proportion to one half ashes, one fourth lime and one fourth gypsum to an acre; this dressing is highly valuable to the wheat crop and to the succeeding crops of grass, and visible for a number of years, and one of the cheapest and best manures used.

The half bushel of Italian wheat was sowed upon the same field side by side of the Black Sea wheat, and the same process of preparing the land and seed was had as with the Black Sea wheat, and the produce was about the same with the Black Sea wheat, and the crop when ripe for harvest was one week later than the Black Sea wheat. The crop of both kinds was twenty bushels to an acre, and the last year I raised thirty-five bushels to an acre of the Black Sea wheat; my wheat was sown the last week in April.

17. I have laid down three acres and three fourths of an acre to grass the present season; I sowed the seed on the first day of May; my usual practice of seeding is, half a bushel of herds grass, one peck of red-top, and ten pounds of clover seed to an acre, and I sowed the same quantity this year; and was sown with the grain crop after the grain was got in with the cultivator and then rolled in.

18. The means and manner of collecting and making manure, are from my cattle and hogs, and by digging the loam out from under my walls; where I new set them or make new walls; the loam and sand beside the roads and from loam pits in my pastures, and the same carried into my barn yard.

19. I keep six oxen, twenty-six cows, no young cattle, two horses, sheep none. One of my barns is 84 feet long and 30 feet wide, one other barn 50 feet long, 36 feet wide, and 20 feet posts, and a cellar under two thirds of the same; one-third part of said cellar occupied for my hogs to lie under in the winter. Manure not covered.

20. My cows are all of the native breed.

21 I have raised no calves. I have fatted all my calves for the market this year and for several years past; I have fatted 37 calves for the market this year, which have brought me at my house $317; but I am convinced that I am pursuing a wrong course, and I intend to raise ten or twelve of my best calves yearly in future.

22. Of butter I have made up to the 15th day of October the present year, twenty-five hundred pounds, and of cheese only for my own consumption, six hundred and fifty pounds of two meal and four meal, and none of new milk.

23. Of swine I have on hand three old ones and twenty-two pigs; I intend to fat the three old ones and seventeen of the pigs, and keep five of the pigs through the winter for breeders; my swine are all of the native breed, and I make my pigs weigh on an average at ten months old, when dressed for the market, three hundred pounds, and have for many years past. I fatted seven thousand one hundred pounds of pork the last year, and sold six thousand and five hundred pounds of the same, which brought me six hundred and fifty dollars.

24. I feed my swine through the summer upon the skim milk and whey from my dairy, and give them no meal in the summer: I fat them upon corn and potatoes; I boil my potatoes and mash them fine and make the composition in the proportion of one bushel of potatoes and half a bushel of meal, and keep my hogs dry and warm, and keep them well littered with straw, which is of the utmost importance in the fattening of hogs.

25. I have a yard in front of my barns, 100 feet in length by 75 feet in depth, where my cattle and swine all yard through the summer and winter; and I get from 300 to 400 loads of manure a year from the same, meaning all that I make of long or green manure and of compost. The materials are of loam, sand that I cart into the yard in the autumn after I have taken the manure out, and of meadow hay, straw and corn stover that I throw out into my yard for my cattle in the winter for them to pick over. It is decidedly the best way that cattle and swine be yarded together for the making of manure.

26. I employ upon my farm three men for eight months, commencing on the first of April, and one man in the winter, and one man three months by the day: I have paid fourteen, sixteen and seventeen dollars by the month for the eight months, and from five to six shillings by the day, and boarded said men.

27. I have five hundred of engrafted apple trees and from two to three hundred trees not engrafted

28. I have forty two pear, 35 peach, 25 plum, 14 cherry, 8 apricot, and 4 almond trees.

29. My trees have never been attacked by the canker worm, to my knowledge; the borer has destroyed one apricot tree and four or five apple trees; I have not taken any means to destroy them.

30. I do not use any nor allow any ardent spirits on my farm, and have not for the last five years.

Horticulture.

[*From the Northern Journal.*]

Mr. CLARK—Observing that you occasionally devote a column of your Journal to the interests of agriculture and horticulture, I am disposed to give some of my notions and experience upon the latter; and if you think them *paper* worthy, you are at liberty to give them an insertion.

I have long been satisfied that our country gardens lose much of their interest and utility, by the unskilful and slovenly manner in which they are usually managed. Not only are they suffered, through shameful neglect, to be overrun with all manner of noxious weeds, but the garden vegetables are planted or sowed (as the case may be,) in such a crowded manner, that it is physically impossible that they should ever approximate to within 'gun-shot' of perfection.

Onions, parsnips, and carrots, should be sowed in drills, lengthwise of the beds, at least twelve inches apart, nor should they be suffered to remain too thick in the drills. Beets should be sowed in the same manner, with the exception, that the drills should be made twenty inches apart, and the plants six inches in the drills. Marrowfat peas should be planted in double drills, three and a half feet apart; and dwarf marrowfats in double drills three feet apart; while melons and cucumbers should be planted in hills at least seven feet apart each way, and no more than three plants should be suffered to remain in a hill.

By adopting the rules, as I have just stated, and keeping our gardens clean by often stirring the ground, we should add much to their beauty, and still more to their utility. It requires but a very small piece of ground, properly managed, to furnish in great variety a full supply of garden vegetables, which not only add much to our table comforts, but are eminently conducive to health; without which, life can scarcely be considered an enjoyment. But I must not stop to lecture or moralize; but, adding a little of my experience the last season, in support of my theory, I will close this communication, which I fear will be too long before I have done with it.

About the middle of May, I planted a part of my side border next to the street with cucumbers. The ground had formerly been thrown up and used as a hot-bed. Owing to the continued wet and cold, one solitary plant made its appearance; nor did this, until near the middle of June. But it did not lose much time after it was up. About the first of July, it commenced giving off its branches, and in less than a month from this time it completely occupied a space of six feet by ten, and scores of young cucumbers might be seen at a time, in different stages of development. Seeing it was a plant of great promise, I conceived the idea of keeping an account of its produce, and thought I should get two hundred; instead of which, I picked with my own hands, rising of four hundred as perfect cucumbers, from this one plant, as was ever set upon a table, or put into a pickle tub.

The circumstances which led to this astonishing result, were obviously, the high culture, the kind of cucumber, the uncommon fecundity of the season, and last, but not least, the ample space allowed to this plant.

It may not be improper to remark here, that many of the branches passed through the pickets into the street, and were fed off by the cattle. Others passed over into the walk, and were trodden under foot—and I will add to these, the untimely frost which happened on the morning of the 4th of September, which killed more than half the leaves—all of which operated as so many drawbacks, but for which, I have no doubt, my crop of cucumbers from this solitary plant, would have been augmented to 500! The greatest number I picked in any one day was 35—the greatest number in any three successive days 72. The length of the cucumbers when picked would range from 2½ to 3½ inches; and with the exception of a dozen or so, at the close of picking, were perfect in shape, and without spot or blemish.

I am well aware, that such a result cannot be reached except in highly favorable seasons; but then it should be remembered, that good seasons ever are lost upon us when the culture is bad; and that good culture will do much in supplying the defects of an indifferent season.

If the above remarks and detail of facts, thus hastily thrown together, shall have any influence in improving the state of our gardens, I shall feel myself amply rewarded for the trouble I have taken in placing them on paper.

DAVID PERRY.

Lowville, 16th Jan. 1839.

Extract from an Address of the Hon. JAMES M. GARNETT, *before the Fredericksburgh Agricultural Society, Va.*

The scripture injunction "*seek and ye shall find,*" is eminently true, not only of spiritual knowledge, but of every species which human beings are capable of attaining, and to no class of mankind is the frequent repetition of this most momentous truth more necessary than to ours; for the worst of our besetting sins is an overweening confidence in our knowledge of husbandry, and the consequent neglect of all the means essential to its improvement. Our secluded country lives, if long continued without interruption, serve only to cherish and confirm this self conceit, almost beyond all hopes of cure. The symptom which usually indicates this disease, in its most inveterate state, is, when the infected person is found, whenever an opportunity offers, constantly and most complacently, talking about "*his* method, *his* system."—When the disorder appears in this aggravated form, a recovery very rarely occurs, for there are only two modes of cure, and both of doubtful efficacy. The first is, to persuade the sufferer, if practicable, to go a little from home, and examine *other men's methods and systems;* for he will then surely find, either that *his*, upon which he has prided himself so much, as sole discoverer and practitioner, have really nothing new in them, or that they are much inferior to the methods and systems of many other persons of his own profession. The second remedy is, to tempt him to read (provided he can,) a few scraps or whole articles in print, about husbandry. If well selected, they may possibly coax him on to peruse a pamphlet, or book or two, on the same subject, when he will discover that the great bug-bear which he has always despised so much under the name of book-farming, is, in reality, neither more nor less than a well authenticated record of the best practices in every branch of husbandry, from the earliest ages to the present day. It is true, that he would find some mere speculations—some useless trash; but what books ex-

cept the Bible, were ever yet exempt from these defects?—Yet, even the most illiterate believe books to be absolutely necessary to the perfection of every honest trade, profession, and calling under the sun. Strange then, most strange would it be, if *that* calling, upon whose prosperity even human existence itself depends, should be the only one which can prosper without books! The vainest fool that ever lived, if he were not an absolute idiot, would not fail to admit this, provided you could prevail on him to think long enough to form an opinion. How shameful—how disgraceful then is it, that any of our fraternity who are certainly *not fools*, should ever be found among the idiotic declaimers against the study of books on agriculture! This study would put him in possession of *one fact*, which of itself should suffice to animate his professional exertions for the rest of his life. It is, that all the greatest benefactors of mankind have been either practical agriculturists, or the devoted friends thereof—that they have deemed agriculture not only an *art* but a *science*, to the perfection of which the study of books is indispensable; and, moreover, that to the end of time, it will always fall so far short of perfection, as to leave ample room for constant improvement, even to the wisest and most experienced of our profession. To strive therefore with might and main after this improvement, and with a zeal and perseverance proportioned to its importance, should be deemed the indispensable duty of every man who presumes to call himself a friend to the great, the vital cause of agriculture. All who give it only *lip service*, should be ranked amongst its worst enemies, since the tongue alone is worse than nothing, unless the heart, the hand, and the purse, unite in its promotion: nay, more, unless this union, in the case of us Virginians, should so work as to obtain legislative aid to our cause. But no man in his senses can hope it, as our legislatures are now constituted, if he judges by their undeviating neglect of agriculture, from the end of our revolutionary war to the present time; although strange to say, a large majority of them have always been agriculturists! Of this there can be but one even *probable* explanation; it is, that they must believe *party politics* to be much more deserving of their patronage than *agriculture*.—To cure them of this hallucination, there is only one remedy, and *that*, thank God, is still in our power, although there is some doubt whether we shall all be sufficiently alive to our own interest to apply it. This remedy is, either to elect no more representatives, without clear, unequivocal pledges to do something for agriculture; or to instruct all who will not give such pledges, that they *must* do something, or never again expect our suffrages. Why this course has not been pursued, after so many fruitless and deeply mortifying applications to our legislatures, is to me utterly inexplicable, but upon the supposition that the majority of us are stone blind to the obvious means of relief; or that those who *can* see them, and are fully aware of all their momentous bearings, want the courage and perseverance to combat that fearful and most formidable obstacle to improvements of every kind, which consists in a union of ignorance and asinine indifference relative to our best interests. We agriculturists *may*, and often *do* live so comfortably at home, by industry and frugality, almost in spite of government neglect, nay, even of government hostility, that we remain ignorant of the vast extent to which legislative enactments have benefitted agriculture in other countries, and might advance our own, if we would only exert over them *that* influence, *that* control, which our constitution has secured to us. Should we much longer neglect to do so, all argument, all persuasion, used for any such purpose, will be as entirely thrown away, as an attempt to show how a dead man's life might have been saved, had a certain nostrum been administered while he was alive. Unless we mean "*to give up the ship*," in other words, to abandon our good old mother, Virginia, to her aboriginal inhabitants, the bears and wolves of the forest, and flee to "the far west," we *must* insist upon the establishment at public expense of a board of agriculture, or an agricultural school, or an agricultural survey of the state, or all three together. One or all of these means are indispensably necessary, if we would maintain among our sister states, that relative rank and importance to which our soil, climate, natural resources and population, so justly entitle us. * * * * * * * *

Poudrette.

Mr. Minor, manager of the poudrette establishment at New-York, has furnished us with the following extracts, from highly respectable farmers, demonstrative of the great value of this new species of manure.

Extract of a letter from Dr. Josiah Bowers, dated Smithtown, Long-Island, 14th Jan. 1839.

"I have used poudrette on several crops with very satisfactory results. On one-half of a field of corn containing six acres. I applied it at planting time, at the rate of *one gill* to the hill. The produce was more than double that of the remaining half of the field. It is proper to remark that the soil was clayey and cold, and not calculated to produce good corn without warm manure. One-half of another field of ten acres, was planted with a gill to the hill; the next day the remaining five acres were planted without manure. Both parts came up equally well, but that treated with poudrette, very greatly excelled in rapidity and vigor of growth, being at least twice the size of the other, at the time of second hoeing. At this period, I treated the remaining five acres, with the same quantity of poudrette per acre as had been put in the hill of the first, sowing it on the ground at broadcast, and working it in with the cultivator and hoe. The result answered my expectations. That manured in the hill maintained its superiority for a few weeks, but it became daily more obvious that its rival was gaining upon it, and at the time of cutting up no difference could be perceived in the crop, both being excellent for the season. Forty bushels per acre on ruta baga, produced a result beyond my most sanguine expectations. A large number of experienced farmers examined the crop on the ground, and agreed in pronouncing it the most abundant they had ever seen.

"In the garden it was no less effectual, producing the finest melons, squashes, cucumbers, peas, beans, &c. Indeed I consider it peculiarly suitable for all annual plants, or such as require a rapid and vigorous growth. In addition to my own experiments, I have been careful to observe its effects, as used by my neighbors, as well as to ascertain their opinion of its value, in comparison with other manures. The best evidence of the high estimate they put upon its value, is the extreme solicitude manifest in all who have used it, to secure to themselves a future supply. J. BOWERS."

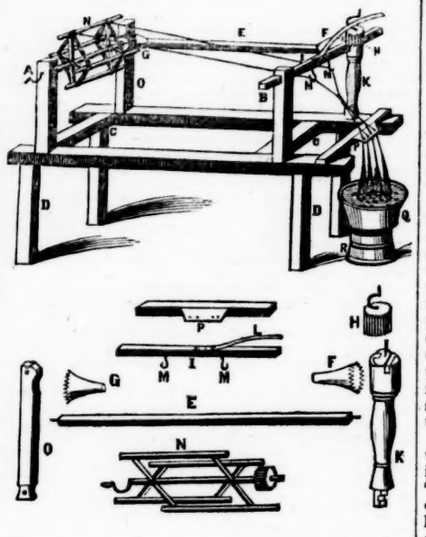
Extract from a letter written by Wm. F. Blydenburgh, Esq. dated Smithtown, L. I Jan. 29th, 1839.

"To D. K. MINOR—Sir—I have used poudrette in the hills of Indian corn, say a gill or handfull to each hill, with very decided benefit. The corn in the same field, manured in the hill with first quality hog-pen manure, for the first 60 or 90 days, appeared to be inferior to that treated with poudrette, at least 30 per cent; but at gathering time, little or no difference in the produce was perceptible. The quantity of hog-pen manure, put in each hill, must have exceeded the quantity of poudrette 600 per cent, or more. I should prefer, for the purpose of manuring corn in the hill, one bushel of poudrette to six of the best hog-pen manure.

"During the first thirty days, after the corn above named was planted, I would remark, that the part of the field treated with poudrette, appeared at least fifty per cent better than that treated with hog-pen manure. The beneficial effects of poudrette upon all spring crops are immediate, so far as I have observed. On grass lands, in the month of May, it has a decidedly beneficial effect, as a top dressing. I should think twenty bushels to the acre on grass, would double the crop, for one year; but the effects on that crop, for the second year, I should deem very slight. So far as I have been able to make up an opinion as to the value of poudrette, I should say a bushel of it is worth 12 bushels of street manure, 7 of horse manure, 6 of hog-pen manure, 3 of ashes, 14 of cow-yard manure, and ⅔ths of a bushel of *ground* bones, for any crop, allowing all of them to be on the farm, or at least near to it, so that no freight is to be charged on either. When freight and cartage are to be considered, the difference in favor of poudrette, bating bones, is greater. I should be glad to purchase this season, 1,000 bushels of poudrette, at 30 cents per bushel. In fact, rather than not have it, I would give something more. W. F. BLYDENBURGH."

Piedmontese Silk Reel.

[Fig. No. 12.]



The frame is 6 feet 5 inches long, 4½ by 3 inches thick. Distance of the upright posts A and B, 4 feet 4½ inches.

C, C, length of the connecting bars of the frame, 20 inches in the clear.

D, D, legs, 2 feet 3½ inches long.

E, E, shaft, with the cogs at each end. Cog F has 22 teeth: cog G 25 teeth.

H, cog of 35 teeth, with a crank on the top, 4 inches sweep; point of the crank ⅔ths of an inch from the edge of the cog.

I, a moveable bar, 2 feet 10 inches long, ⅝ths of an inch wide, ⅔ths of an inch thick, playing through the upright posts B, K.

L, an iron carrier, of wire No. 1, one end fixed to work free, by a screw in the moveable bar, 18 inches from its extreme end K. The other end is fixed by a burr to the centre of the cog on the top of the upright, K.

M, M, two wire hooks, 7¾ inches asunder, at equal distances from the ends of the moveable bar to which they are attached. The hooks are 4¾ inches long.

N, the reel: arms 2 feet 5 inches long; 1½ inches wide; ⅞ths of an inch thick; outer rim 20¾ inches long; 2 inches deep; ⅞ths thick; one of the arms is jointed, to enable the workman to take off the silk when reeled. There ought to be an extra reel, to put in the place of the one taken off, to prevent the work stopping.

O, upright support for the axle of the reel, to which the cogs of the reel, and of the shaft E, are fixed.

P, an iron plate, 12 inches long, projecting 3½ inches from the bar, with 4 holes, through which the threads of the silk pass.

Q, the copper to contain hot water, in which the cocoons are placed, when reeling off.

R, the furnace to contain charcoal, to keep the water of the proper and uniform heat.

The copper bason is 1½ feet long, 1 foot broad, and 4½ inches deep.

NOTE.—B. F. POMEROY, turner, corner of Dock and Walnut streets, Philadelphia, will make Reels, at $10 per piece, upon the plan of the one given above.

Address, by J. J. Viele, Esq.

Delivered before the N. Y. State Agricultural Society, February 6, 1839.

GENTLEMEN—Among the many objects, for the attainment of which associations have been formed, there is none more laudable or philanthropic in its design—none that promises greater utility in its results, than that which has for its purpose the improvement of our agriculture. Whether we view it in its effect upon the welfare and prosperity of the great mass, composing the nation, or whether we have reference only to its effect upon individual happiness, we inevitably arrive at the same conclusions. To ameliorate the condition of mankind—to multiply the blessings of Providence—to increase the productions of our country—to beautify the face of nature—to develop new sources of wealth—to diffuse knowledge, and promote the great cause of universal education—in short, to augment the nation's wealth, and promote the interest and happiness of individuals, is the great object of our association.

In the early ages of the world, it is supposed that mankind lived mostly by fishing and hunting, upon herbage and fruit, the spontaneous productions of the earth. The first step in improvement, was to the pastoral life, or the rearing and keeping of flocks and herds. As mankind increased in numbers, they began gradually to cultivate the earth, and in a measure, to obey the injunction of High Heaven, requiring them "to eat their bread in the sweat of their brows."—This employment however, was not considered the most honorable, and was mostly performed by slaves and females, while the males devoted themselves to the pursuits of war, and the chase. With the advance of civilization, agriculture became more respected, and began to be considered of more importance; but it has always been viewed by many, as a servile and menial employment, and those who pursued it, have been subject to oppressive exactions, to mantain an indolent and corrupt clergy, to defray the expenses of war, and support the administration of the affairs of State.—Land became the property of the successful chiefs, and was considered among the legitimate "spoils of victory." This was parcelled out in large tracts, among the favorites of the conqueror; and in their turn subdivided among their servile followers, on condition, and with the most solemn asseverations, "that they would, from that day forth, become their man, faithful of life and limb, and terrene honor." Here is the origin of the feudal system, under which Europe has groaned for centuries, and a landed aristocracy has been built up, and engrafted upon their governments, which the advance of civilization and free principles, has as yet in vain endeavored to shake off. Grants of large tracts by the crown, to particular favorites, entailed upon their posterity in perpetuity, and by them leased to a degraded and oppressed peasantry, borne down by tithes and oppressive taxation, are among the causes, if not the principal, why agriculture has slumbered in ignorance for ages and centuries, while the other useful arts and sciences, have advanced with a rapidity only equalled by the march of time itself.

But thanks be to the spirits of our forefathers, that we can congratulate ourselves that our lot has been cast in a land of free and equal privileges, and that we have "a goodly heritage." By the constitution and laws of our country, estates entail, and in perpetuity, have been abolished, & there is no intermediate being requiring homage and fealty, between man and his God. Yet, as our population and laws were originally derived from countries where unequal laws prevailed, and where, through their influence, great and wide distinctions had grown up in society, based not upon merit, but upon government favor and patronage—the accident of birth, or the influence of other adventitious circumstances, we could not at one blow, entirely throw them off, and rid ourselves of their baneful influence. The established principle, however, is working admirably, and it needs not the eye of prophecy to foresee that the time is not far distant, when our farmers, hitherto despised by the "*ruffle-shirt*" or "*blue-stocking*" gentry, shall have arisen from the low, degraded, and ignorant state of the oppressed peasants and serfs of the old world, to the first station in the ranks of a highly civilized and enlightened nation. This desirabe result is not to be produced by the flattering appeals of noisy demagogues, and candidates for popular favor, but by the action and combined efforts of the agriculturists themselves, seconded and aided by the co-operation of an enlightened and liberal government.

The United States of America, extending from the twenty-fifth to the fiftieth degree of north latitude, embraces a greater variety of soil and climate, than any other nation; and is capable of producing in perfection, almost every article of necessity or luxury, now afforded by any part of the civilized globe. Yet, notwithstanding these advantages of climate, soil, and government, our agriculture has been suffered to languish and de-

cline, to an extent that almost makes us tributary to foreign powers, for the humblest necessaries of life.

"Can such things be,
And overcome us, like a summer's cloud,
Without our special wonder?"

The truth is, that even in our comparatively free country; while every other interest has been fostered and encouraged by bounties, appropriations and protective duties, the humble, but all important business of agriculture has been left to take care of itself. While the other avocations have been aided and forced by artificial stimulants, agriculture has been overlooked and neglected. While the light of science has been reflected upon all the other pursuits and avocations of man, agriculture has been left to grope in darkness, unaided, unnoticed, and without any particular inducement to stimulate her sons to action. The old impressions still lingering upon the minds of men, that she was of humble and menial origin, and that the only road to honor, distinction, or even any great degree of respectability, was through the learned professions, or the pursuits of commerce. The effect produced by this state of things is, that the consumers of our country are increasing in a ratio vastly disproportioned to the producers. The professions are overstocked, mercantile business is overdone, and speculation becomes the great business of the community, instead of the ordinary pursuits of industry.

Hence it is of the greatest importance not only to the agriculturist and manufacturer, but to the real and lasting wealth and prosperity of all classes of our citizens, that by a liberal and enlightened policy, our government should adopt measures for educating those who desire to till the soil, in the arts and sciences connected therewith; thereby placing them on a level with those who are educated in other pursuits in life, and qualifying them to understand, adopt and bring forth, all valuable improvements in their various departments, and by a proper distribution of rewards and bounties to those who shall greatly excel, encourage and stimulate the industry of the producing classes, by means of which the productions of our country would be vastly increased, new sources of national wealth be opened, and our country rendered in truth and in fact, wholly independent of foreign powers. Thus we should be enabled to sell more, and buy less. The same rules govern the economy of nations, as individuals. If an individual's expenditures exceed his income, he draws upon his principal, and is made poorer in proportion to the amount of the excess. Just so with a nation, which is nothing but a vast association of individuals. If she buys more from foreign powers than she sells, she is impoverished to the full extent of that excess.

That our agriculture is not in a very prosperous condition, is evident from the fact, that although we possess a salubrious climate, and a soil scarcely equalled in fertility, we have for a few years past been dependant upon foreign nations for the necessaries of life. Millions of dollars have been expended annually, for the last few years, for those articles of domestic consumption which our own agriculture should have supplied. Wheat, rye, Indian corn, oats, barley, butter, cheese, potatoes and hay, and a vast many other articles, have been imported to supply the demands of our consumers. There is no question in the minds of many who have investigated this subject, that our own agriculture is susceptible of such an improvement as would not only obviate the necessity of importations, but produce a vast surplus for exportation. By introducing an improved system of culture, greater economy in the use of manures, double, yea, quadruple that is now obtained, might be produced; the fertility and value of the soil enhanced; old, worn out lands might be renovated; and the taxable property and wealth of the nation increased in a corresponding ratio.

In addition to the improvement of our old routine of husbandry, there remain sources of wealth to which American industry has scarcely as yet been directed. I allude particularly to the introduction and cultivation of the mulberry, and the sugar beet. That these are both objects of great national importance, will not, I think, be controverted. When we take into consideration, that the average quantity of silk imported into this country for the last seven years, amounts to the enormous sum of fourteen millions annually, it would seem that wisdom would at once suggest the policy of encouraging, by legislative bounties, the growth and manufacture of an article that enters so largely into our consumption. The manufacture of silk, it is said was introduced into Greece as early as the sixth century. It furnishes one of the staples of China, from whence a sufficient quantity of the eggs of the silk worm to commence business, were clandestinely conveyed in the hollow of a cane, by two missionaries; from whence it has spread to almost every part of Europe that is adapted to its culture. It has been found by experiment that the mulberry flourishes in almost every State in the Union, and in some of them, considerable advances have been made in the manufacture of silk. The growing of the mulberry seems well adapted to our worn out soils, as it requires not the richest land to enable it to flourish best. From the little experience that has been had in this branch of industry in this country, there is little doubt but that it might be made a most lucrative branch of agriculture.

Of scarcely less consequence than the production of silk, is the cultivation of the beet, and the manufacture of sugar. The annual imports of sugar for the last seven years, average about six millions of dollars. This vast amount might also be saved to the nation by the encouragement of this branch of husbandry. The manufacture of sugar from the beet, is of very recent origin in the world. It was first introduced into France in 1811, under the continental system of Buonaparte. It was discovered by that sagacious man, to be an object of great national concern, consequently, it was patronized and encouraged by the imperial government, until its production has swelled to the enormous amount of about one hundred millions of pounds annually, which is about half the quantity consumed by the kingdom. It has been ascertained by experiments in this country, that sugar of equal quality can be made from the beet, with that produced from the cane, and at such an expense, that it might be afforded much cheaper in the markets. Our soil is well adapted to the beet. The product per acre is variously estimated at from twenty to thirty tons, depending of course much upon the state of the soil and the knowledge with which it is cultivated. This will probably yield upon the average about six per cent of sugar, making from 2,400 lbs. to 3,600 lbs. of sugar from an acre. To this may be added the molasses and cakes, also the tops, all of which is said to be highly valuable for the feeding of stock.

If there are so many advantages to be derived from the cultivation and manufacture of these two important articles of consumption, of necessity and luxury, if our soil and climate are adapted to them, if they promise such an abundant harvest of public gain and individual profit; why it may be inquired, may we not become a great silk and sugar manufacturing people? Why may not the twenty millions of dollars that is annually sent out of the country for these commodities be saved to the nation? I answer, that it may; and it only requires that public attention should be called to the subject, correct information with regard to it be diffused, and that some legislative encouragement should be given for a short time, that the difficulties and obstacles always attending the introduction of any new enterprise, may be surmounted.

Hemp and flax are also objects of great commercial importance and domestic utility. They are supposed to be natives of the north of Africa, from the rich alluvial bottoms of the Nile. They are now cultivated almost exclusively in the provinces of Europe, situated in latitudes corresponding with our northern and eastern states. They constitute the staples of Russia and Ireland, and enter extensively into their domestic industry. No soil is better adapted to the growing of flax, than almost any of the grain lands of our country. Our rich alluvial bottoms and western prairies, would doubtless yield great returns, if appropriated to the culture of hemp. But so far are we from producing enough of these commodities for our own use and consumption, that we annually import about six hundred thousand dollars in value of sail-cloth, and about the same amount of the manufactures of flax. Almost all the fine linen that is worn in our country, is imported, and the few linen factories that we have among us, are under the necessity of sending abroad for flax and hemp, to fill out their contracts, to furnish canvass for the United States navy. It is a fact humiliating to our national pride and patriotism, that our country in the fifty-third year of her *independence*, is as yet, *dependent*, upon the empire of Russia, Ireland and the nations on the Baltic, for the canvass which floats our vessels; and upon Europe, the East Indies or China, for the fabric from which to construct the American Flag, that proud emblem of our national character and honor.

There are other important subjects requiring more particular attention from our agricultural community, but it cannot be expected, that in the short compass of an address, I shall be enabled to enumerate them all; nor can I enter into detail as to the "modus operandi" of the culture and manufacture of those, to which I have briefly alluded. At the last annual meeting of the society, committees were appointed having many of these subjects under special charge, and reports will doubtless be made replete with interest and useful instruction.

That these sources of national and individual wealth, if properly fostered and encouraged, would in a few years grow to be of vast consequence, and that upwards of twenty millions might be saved annually, in addition to their being articles of export, I have no doubt. Ignorance may reject them as innovations unworthy of a passing notice, and incredulity may smile at these fond anticipations, but he, who will take the trouble to investigate the subject, in connection with the history of agriculture in the world, and more particularly in our own country, must inevitably arrive at the same conclusions. Cotton and wool, raw and in the manufactured state, are now the great staples of our country. The history of both will show that the time is not very long since they were introduced; and that the obstacles and difficulties that they first encountered, were not less than those that now present themselves to the successful production of silk, sugar, flax or hemp. The cultivation of cotton, the great staple of the south, was first commenced in South Carolina about the year 1783. Its progress was slow, being attended with much inconvenience from the want of experience in its cultivation, and the difficulty of separating the fibre from the seed. In the year 1793, an invention was wrought out, by a young man from Mass. by the name of Eli Whitney, that completely obviated the difficulty of cleansing it. Since which time it has increased with a rapidity, and to an amount, most truly astonishing. From one million of pounds in 1789, it has increased to near five hundred millions in 1838. The quantity exported in 1792, amounted, to one hundred and fifty thousand pounds. In 1836 the exports are swelled to the enormous quantity of four hundred and forty-four millions of pounds, amounting in value to about sixty-three millions of dollars. The increase and growth of its manufacture, has also been very rapid. In 1790, there was but one small establishment of the kind in the United States, which was located in the state of Rhode Island, and contained about seventy spindles. In 1835, there was running about one million, three hundred thousand spindles. It appears from the reports of the secretary of the treasury, that above one-half of our domestic exports are derived from the culture of cotton, and that nine-tenths of our entire exports arise from agriculture.

The growth and manufacture of fine wool, is of still more recent origin, and was in its commencement, attended with great difficulties and discouragements. In 1802, the first pairs of merinos were imported into this country from France, by the public spirited and patriotic late Chancellor Livingston. It was a long time before they were received with favor, and but few years have passed since they were ridiculed and denounced, as unworthy a breathing in our free air. Yet, notwithstanding the obstacles and prejudices in the way of their introduction, they received the favorable consideration and patronage of many of the states, and have multiplied and almost replenished the land. From the best data that we have, it is calculated that the number of sheep now in the state of New-York, is about five millions; and in the United States, about twenty millions. About one-fifth of them, it is thought, are of the native, or coarse-woolled race; and the remaining four-fifths of high-grade, or full-bred Saxony and merino. Our woollen manufactures have increased in a corresponding ratio, by means of which, many millions are annually saved the nation. Wool has now become the great staple of Eastern New-York, and New-England, and a source of great individual and national wealth.

Thus we find that the cultivation of cotton at the south, and the growing of wool at the north, are comparatively of recent origin; that they were introduced and commenced under great embarrassments, and yet have grown to be the prominent and controlling interest of the country. Ought we not to inquire, whether there may not remain sources of great wealth, as-yet unopened and undeveloped? And have we not reason for encouragement and perseverance, when we reflect upon the many obstacles that have been surmounted, and the many storms that have been weathered, in the history of wool and cotton? That silk, and sugar, and flax, and hemp, should be regarded as of equal importance, in a national point of view, and that they promise ultimately under proper patronage and encouragement, to become as lucrative branches of industry, I cannot entertain a reasonable doubt.

The wisdom of the policy of making judicious appropriations from the public treasury to improve our agriculture, and to encourage those productions to which our soil and climate are adapted, seems generally to be conceded, and the principle has again and again been acted upon, with reference to other interests of minor importance; but the primary business of agriculture, which belongs to all, and in which all are concerned, is made secondary in our legislation. Special legislation, private and local interests, almost always crowd themselves in advance of matters of general concern. Another reason, perhaps, why legislative action has not been had in this state, is the want of intelligence, comprehensive views, and concert of action, on the part of farmers themselves. So long as they will be blind to their own interests—so long as they will allow themselves to be the mere drudges and slaves, "the hewers of wood and the drawers of water" to the learned professions, and the other avocations of life—so long as they will consent to be the tools of power, and the mere automatons of designing politicians, just so long will their interests be disregarded, and their condition be comparatively degraded: just so long will they occupy a secondary position in the scale of respectability and honor.

Many of the states of the Union, to say nothing of foreign countries, have set a noble and praiseworthy example in patronizing and encouraging this most useful of all the arts. Almost all the New-England states are offering bounties upon wheat, silk and sugar, produced within their borders. A number of the middle, southern and western states, are also turning their attention to these subjects. Foreign nations have, for a long time seen the necessity of doing something to make more broad, and stable, and sure, this foundation of a nation's greatness and glory. The result of this policy is, that the old world, instead of being our market place, produces a surplus with which it supplies the deficiency of our miserably neglected soil. It is to be hoped that New-York, proudly styled the Empire State, will follow, if not lead, in this noble enterprise. With an extent of territory greater than many of the kingdoms of the world; with a population amounting to about one-sixth of the Union; with a salubrious climate, whose fertility is unrivalled, why will she lag behind her sister states and the world, in this march of improvement? The subject of internal improvement seems to engross, at this time, much of the public attention. But our authorities should recollect, that however important and useful they may be, it is not *alone* rail-roads or canals, or mushroom cities and villages, that enrich a nation. Although that species of improvement is, to a certain extent, desirable, it should not be forgotten, that the internal improvements which contribute most to enrich a country, are those which improve and fertilize the soil, adorn the face of nature, increase the productions and enhance the value of the land. It is the successful cultivation of the soil *alone*, that furnishes the means for the support of villages, cities, rail-roads and canals. If that is left to languish and decline, the former will fall into premature decay, and the latter will truly become "solitudes and desert wastes of waters."

(Concluded in our next.)

Young Men's Department.

Hints to Young Farmers.

NO. XIII.—"DESPISE NOT SMALL THINGS."

The small trees that were set out by your fathers, have grown into a fruit-bearing orchard, and yield subsistence to the family and the farm stock. The once puny saplings which in childhood you assisted to plant about the house, give shelter and picturesque beauty to the old homestead. The grape cutting has become a wide spreading vine, and yields an annual tribute of luscious fruit. The acorn has grown to a towering oak. How many of the comforts and pleasures which you enjoy, do you owe to the happy circumstance that your parents *did not despise small things?*

Our passions and habits, like the oak and the apple-tree, have their small beginnings. We may train them to our will, and render them subservient to the noblest purposes of life. Thus the seeds of useful knowledge, planted in early life, will spring up, and give an abundant increase in manhood. Thus, too, habits of industry and frugality, established in youth, although then often considered *small things*, are the germs of wealth and happiness in riper years. Moral soundness and purity will lead to honor and respect; while the habit of scrupulously respecting the rights, and promoting the welfare of our neighbors, is the surest means of obtaining what we all stand in need of, the kind offices and good will of others. If these *small things* are not regarded while the twig may yet be bent, you cannot rationally expect to enjoy the pleasures and profits which they yield in maturer life.

The vegetables must be planted while they are yet *small things*, and they must be nurtured and protected, or they will fail to yield the promised food and shelter. The good habits, too, must be established in the germ of life, and the passions disciplined, if you would realize the parallel of usefulness and beauty. The plants may become the property of others, and you lose the promised reward of fruit. But your good habits and sound principles are exclusively your own. You can enjoy the rewards they bring, while you live, and can indulge the hope that your children will be benefitted by the influence of your example.

Plant trees and vines, that they may yield you the comforts of life: cultivate the better passions, and establish the good habits, in yourself and children, that you may all truly *enjoy* those comforts.

NO. XIV.—TIME IS CAPITAL.

Every young man has this capital at command, when he reaches the age of manhood; and in this respect all are equal. We may state it at an average, at one thousand dollars; because every prudent laborer, if he is blessed with health and a tolerable knowledge of any useful business, may save from his annual earnings seventy dollars. This seventy dollars, accumulated annually from one's earnings, and prudently husbanded, will, at the end of ten years, form an aggregate of more than one thousand dollars; and if continued ten years longer, will have accumulated to nearly three thousand dollars. Every dollar saved, and duly vested in the outset of life, multiplies progressively as time advances.

How differently do young men employ this capital! Those who best appreciate its value, and who employ it to the best advantage, are such as depend upon it solely as the *foundation* of their fortunes—who do not lean upon a paternal inheritance. The most wealthy and distinguished men of our country were of this class; whose time constituted the only capital they had to begin the world with, and who, with this beginning, which every young man has equally at command, have accumulated vast fortunes. With them time has truly been money.

On the other hand, when we have seen young men, either because they did not appreciate its value, or because they relied too much upon hereditary rank and fortune, throw away this capital—this time of youth—or waste it in frivolity and fashion, we have generally seen them sinking in the scale of society, both in regard to wealth and usefulness; and have too often seen them reduced to want or to crime.

If the young man will look about, and inquire into the early habits of the generation before him, he will find abundant reason to concur with us in opinion, that *time is capital*—is money—which, if discreetly employed in the outset of life, will lead to fortune and happiness; but which if wasted, or unemployed, will give neither increase nor character to its possessor.

We have assumed as the basis of our comparison, the time of a common laboring man, who exerts merely his bodily and mechanical powers. We have made no reference to the powers of the intellect. Where these are brought out, by reading, observation and reflection, and made auxiliary to labor, they very materially enhance the value of the capital of which we are speaking. They add to its value two, three and four fold. A common laborer's time may be stated at $110 a year; while there are others, whose education qualifies them for higher duties, whose services will command twice, thrice, nay ten times as great a salary; so that every young man who expects to start in life with the bare capital of his time, has it in his power very much to increase the value of this capital, by the early improvement of his mind. Thousands and tens of thousands are constantly making experiments and improvements in agriculture, a knowledge of which would double or treble the profits of his labor. These experiments and these improvements are registered in our agricultural periodicals; and he may obtain an early knowledge of them for a trifle, and without infringing upon his labors, and may apply them to the increase, and consequently to the income of that capital. There is no art, no calling, but demands industry and perseverance, to attain to excellence in; and there is probably no business to which this remark is more applicable, than to agriculture. It embraces the whole of animated nature—the animal and vegetable kingdoms—and the crust of the globe which he works. Were the farmer to live the age of the patriarchs, he might continue to learn something useful in his business to the last day of his life.

How to Ruin a Son.

1. Let him have his own way.
2. Allow him free use of money.
3. Suffer him to rove where he pleases on the Sabbath.
4. Give him full access to his wicked companions.
5. Call him to no account for his evenings.
6. Furnish him with no stated employment.

Pursue either of these ways and you will experience a most marvellous deliverance, or will have to mourn over a debased and ruined child! Thousands have realized the sad result, and have gone mourning to the grave.—*Philadelphia Observer.*

Moneys received up to 20th of April, in sums of five dollars and over. The total receipts are included from post-offices marked with an asterisk.

	No. Vols.		No. Vols.
Adrian,	Mich. 5	E. Granby,	Ct. 5
Au Sable,	N.Y. 5	E. Sheffield,	Mass. 8
Augusta,	N.J. 12	Enfield,	Va. 11
Alexandriana,	N.C. 5	Erie,	Pa. 5
Abingdon,	Va. 25	*E. Haddam,	Ct. 14
Abbeville,	S C. 27	Elizabeth,	Pa. 5
*Alexandria,	D.C. 50	Elizabethtown,	N.J. 6
Athens,	N.Y. 8	Falmouth,	Mass. 6
*Augusta,	Ga. 45	Franklin Furnace,	N.J. 5
Auburn,	N.Y. 7	Franklin Mills,	O. 11
Abington,	Pa. 14	*Freehold,	N.J. 21
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Ashtabula,	O. 5	Flushing,	N.Y. 10
Buckingham C. H.	Va. 11	Ferrisburgh,	Vt. 6
Bardstown,	Ky. 6	*Fairfax C. H.	Va. 22
*Bridgeport,	Ct. 18	Fort Hamilton,	N.Y. 6
Buckland corners,	Ct. 9	Gallatin,	Tenn. 15
Berlin,	N.Y. 6	Germantown,	Tenn. 5
Buffalo,	N.Y. 7	Galena,	Ill. 6
Ballston,	N.Y. 5	Geneva,	N.Y. 30
*Boston,	Mass. 124	Girard,	Pa. 5
Byberry,	Pa. 11	Greenfield,	Mass. 6
Barre,	Mass. 5	Grafton,	Vt. 5
Brattleboro',	Vt. 6	Goshen,	N.Y. 5
Bainbridge,	N.Y. 6	Hudson,	N.Y. 19
*Boydton,	Va. 27	Hamilton,	N.Y. 5
*Baltimore,	Md. 67	Hadley,	Mass. 5
*Butternuts,	N.Y. 26	*Hartford,	Ct. 31
Bethany Church,	N.C. 17	Hackensack,	N.J. 7
Brookeville,	Va. 5	*Harrisburgh,	Pa. 28
Braintree,	Mass. 11	Harbor creek,	Pa. 5
*Brookville	Md. 21	Harvard,	Mass. 11
Brooklyn,	Ct. 14	Hoosick,	N.Y. 8
*Benton,	N.Y. 6	Hempstead,	N.Y. 9
Brooklyn,	N.Y. 7	Hancock,	N.H. 5
Bowman's Mills,	Va. 6	Hillsborough,	O. 14
Beattie's Ford,	N.C. 5	Hunt's Store,	N.C. 11
Butler,	Pa. 7	Hamilton,	U.C. 5
Belvidere,	N.J. 14	Hamilton,	N.Y. 18
*Colchester,	Ct. 10	Ipswich,	Mass. 20
*Canaan 4 corners,	N.Y. 14	Johnson's Springs,	Va. 46
Cheraw,	S.C. 22	Jonesborough,	Mo. 18
Crowder's creek,	N C. 12	*Jerusalem,	Va. 11
Canton,	N.Y. 7	Jackson C. H.	O. 5
*Cincinnati,	O. 16	Johnsonburgh,	N.J. 20
Conway,	Mass. 6	*Jackson,	Tenn. 10
Chillicothe,	O. 6	Keene,	N.H. 26
Charlotte C. H,	Va. 12	*Keeseville,	N.Y. 35
Connellsville,	Pa. 11	Kalamazoo,	Mich. 33
Church Hill,	S.C. 5	Kingwood,	N.J. 5
Cleves,	O. 6	*Kanawha C. H.	Va. 49
Coeymans,	N.Y. 8	Kanawha Saline,	Va. 6
Champlain,	N.Y. 19	Kinderhook	N.Y. 6
Chatham,	Ct. 5	*Litchfield	Ct. 40
*Coxsackie,	N.Y. 25	Lynchburgh,	Va. 69
Charlemont,	Mass. 5	Lawrenceville,	N.J. 18
Canton,	Ill. 7	Lewistown,	Pa. 15
*Carrollton,	Ill. 8	L'Original,	U.C. 7
*Clinton,	Mich. 8	Lancaster,	N.H. 5
Cornwall,	Vt. 5	Long Meadow,	Va. 9
Columbus,	O. 6	Litchfield,	Mich. 6
*Catskill,	N.Y. 13	*Louisville,	Ky. 29
Camden,	N.Y. 5	Lairdsville,	N.Y. 5
Concord,	N.C. 5	Lodi,	S.C. 13
Chicago,	Ill. 5	Lexington,	Ky. 14
Castleton,	Vt. 17	Lebanon,	Tenn. 6
Columbia,	Mo. 5	Leicester,	Mass. 5
Courtland,	Ala. 5	McNarys,	Ky. 6
Cumberland,	Md. 5	Marlborough,	N.Y. 5
Cambridge,	Md. 17	Milwaukie,	Wis. 5
*Cecilton,	Md. 9	Milton,	N.Y. 13
Clear creek,	O. 6	Marlborough,	Ct. 5
Charlestown,	N.H. 9	*Meadville,	Pa. 12
*Detroit,	Mich. 13	*Medford,	Mass. 25
*Darnestown,	Md. 11	Monroe,	N.Y. 13
Danbury,	Ct. 15	*Middlebury,	Vt. 7
Davenport,	Io.T. 8	Medway,	Mass. 22
*Dayton,	O. 59	Marshall,	N.Y. 5
Delhi,	N.Y. 6	Morristown,	N.J. 11
De Witt,	N.Y. 6	*Marshall,	Mich. 20
Danby,	N.Y. 5	Middletown,	Va. 10
Danville,	Pa. 11	Mayfield,	Va. 11
*Easton,	Md. 17	*Mount Vernon,	Ia. 24
Experiment Mills,	Pa. 5	Madison,	O. 8
Elgin,	Ill. 5	Montreal,	L.C. 12
E. Hampton,	Mass. 5	*Minaville,	N.Y. 16
E. Long Meadow,	Mass. 5	Mulloys,	Tenn. 5
Eugene,	Ia. 5	Monroe,	Ga. 13
Martinsburgh,	N.Y. 5	*Richmond,	Ia. 31
*Mount Juliet,	Va. 25	*Rockford,	Ill. 11
Mendham,	N.J. 5	Ridge Prairie,	Ill. 5
*Monroe,	Ct. 10	Richmond,	Ill. 5
Millstone,	N.J. 5	Reading,	N.Y. 11
Middlefield,	Mass. 6	Salisbury centre,	N.Y. 5
Mitchell's Store,	Va. 5	Shelbyville,	Ky. 18
Middletown,	O. 28	*Suffolk,	Va. 26
Manchester,	Ct. 13	Saginaw City,	Mich. 11
Madison,	N.Y. 7	Stuyvesant Falls,	N.Y. 5
*Milton,	Pa. 11	South Union,	Ky. 5
*Northampton,	Mass. 24	St. Inegoes,	Md. 11
Newbury,	Vt. 6	Sherburne,	N.Y. 5
*Norwich,	N.Y. 13	*St. Albans,	Vt. 25
*New-York City,	186	Summit Bridge,	Del. 6
New-Lebanon,	N.Y. 11	Springfield Furnace,	Pa. 5
*Norwich Town,	Ct. 22	*Schenectady,	N.Y. 15
New-Paltz,	N.Y. 10	Steubenville,	O. 21
*New-Hartford,	N.Y. 17	*Stone Wall Mills,	Va. 17
*Newtown,	N.J. 21	Stonington,	Ct. 5
New-Church,	Va. 11	*Stoney Point Mills,	Va. 24
New-Germantown,	N.J. 5	Scott's Ferry,	Va. 5
New-Haven,	Vt. 12	Summer Hill,	N.Y. 5
Newport,	N.H. 17	Spring Arbor,	Mich. 5
*Newburgh,	N.Y. 19	Salisbury Mills,	N.Y. 6
*Newark,	O. 10	St. Michaels,	Md. 5
Noblesville,	Ia. 11	Springfield,	Vt. 5
New-Albany,	Ia. 14	Sampsonville,	Ky. 8
Napierville,	Ill. 17	Suckasunny,	N.J. 5
Nantucket,	Mass. 22	Sharon,	Ct. 10
*Nashville,	Tenn. 55	Salem,	Ia. 16
No. Brandford,	Ct. 5	*St. Louis,	Mo. 21
Newtown,	Ct. 7	Sutton,	Mass. 6
*New-Brunswick,	N J. 26	Shirley Village,	Mass. 5
Napoleon,	Mich. 6	Shippensburgh,	Pa. 5
Nicholasville,	Ky. 9	Sag-Harbor,	N.Y. 11
New-Utrecht,	N.Y. 7	*Sandisfield,	Mass. 22
Newark,	N.J. 5	*Shawnee Run,	Ky. 11
*Oswego,	N.Y. 24	*Skaneateles,	N.Y. 13
*Orange C. H.	Va. 16	Saratoga Spa,	N.Y. 38
*Oxford,	N.Y. 12	*Southbridge,	Mass. 11
*Owego,	N.Y. 27	Trumansburgh,	N.Y. 11
Otis,	Mass. 5	Trappe,	Md. 11
Oregon City,	Ill. 11	Toronto'	U.C. 35
*Philadelphia,	Pa. 93	*Troy, Rens.	29
Plattsburgh,	N.Y. 23	*Trenton,	N. J. 23
Putnam,	O. 6	Upper Marlboro',	Md. 18
*Pittsburgh,	Pa. 46	*Utica,	N.Y. 34
Princess Ann,	Md. 22	Union Village,	Vt. 5
Pine Plains,	N.Y. 11	Uncasville,	Ct. 5
Pittsford,	Vt. 9	Vincennes,	Ia. 12
Paterson,	N.J. 7	Vernon,	Ct. 11
*Plainfield,	Ct. 6	Willsborough,	N.Y. 15
*Peoria,	Ill. 29	Wawarsing,	N.Y. 5
Providence,	R.I. 5	Westport,	Mo. 8
Pittsfield,	Mass. 13	Whitinsville,	Mass. 9
*Poughkeepsie,	N.Y. 16	*Westborough,	Mass. 30
Pittsford,	N.Y. 6	West Berkshire,	Vt. 5
Peru,	N.Y. 16	Westport,	Ky. 6
Penn-Yan,	N.Y. 5	Webster,	Mass. 5
Powell's Tavern,	Va. 5	*Wilton,	Ct. 11
*Petersburgh,	N.Y. 28	Westfield,	Mass. 11
*Phillipsburgh,	N.J. 10	*Whitehall,	N.Y. 14
Portland,	N.Y. 5	Woodstock,	Vt. 22
Plattekill,	N.Y. 14	Watertown,	N.Y. 7
Putney,	Vt. 5	Westmoreland,	N.H. 5
Plymouth,	Ct. 11	Winchester,	Ct. 7
Powhattan C. H.	Va. 5	Wheatland,	N.Y. 5
Prospect,	Va. 11	Weathersfield,	Ct. 9
Redding,	Ct. 6	Warminster,	Va. 5
*Richmond,	Va. 118	Waterville,	O. 5
Richmondale,	O. 11	Whiting,	Vt. 5
Royalton,	Vt. 11	Weybridge,	Vt. 5
Rindge,	N.H. 11	Whiteville,	Tenn. 5
*Rome,	N Y. 20	Washington,	Pa. 6
Rondout,	N.Y 5	Ypsilanti,	Mich. 9
Reynoldsburgh,	O. 5		

PRICE CURRENT.

ARTICLES.		New-York. April 20.	Boston. April 17.	Philadelphia April 20.	Baltimore. April 20.
Beans, white,	per bush.	2 00 .. 2 25	2 00 .. 3 00	1 50 .. 1 75	2 00 .. 2 50
Beef,	cwt.	8 00 .. 8 25	8 75 .. 9 00	9 00 .. 9 50	9 00 .. 10 00
Bacon, western,	lb.	12 .. 13	16 .. 00	11 .. 12	13 .. 15
Butter, fresh,	lb.	20 .. 25	25 .. 27	15 .. 16	20 .. 50
Cheese,	lb.	8 .. 10	8 .. 10	8 .. 9	8 .. 9
Cotton, best,	lb.	14 .. 17	14 .. 15	9 .. 13	7 .. 16
Flour, best,	bbl.	7 62 .. 9 00	8 00 .. 8 75	7 50 .. 7 75	7 12 .. 7 75
Grain—Wheat,	bush.	1 70 .. 1 72	.. ..	1 60 .. 1 70	1 70 .. 1 75
Rye,	bush.	1 10 .. 1 12	1 15 .. 1 20	1 10 .. 1 13	1 00 .. 1 05
Oats,	bush.	42 .. 52	60 .. 00	43 .. 46	50 .. 52
Corn,	bush.	87 .. 90	94 .. 1 00	34 .. 91	85 .. 87
Hams, pork,	lb.	12 .. 14	11 .. 17	12 .. 15	12 .. 13
Pork, in bag,	cwt.	.. ..	.. ..	7 25 .. 8 00	9 37 .. 9 50
Seeds—Red Clover,	bush.	12 00 .. 13 00	12 00 .. 14 00	13 00 .. 13 50	14 00 .. 15 00
Timothy,	bush.	2 25 .. 2 75	3 00 .. 3 12	3 00 .. 4 00	.. .. 3 00
Wool—Saxony fleece,	lb.	55 .. 65	57 .. 62	55 .. 60	50 .. 55
Merino,	lb.	45 .. 55	50 .. 55	50 .. 55	45 .. 50
1-4 and com.	lb.	36 .. 40	35 .. 40	35 .. 37	35 .. 40
Sheep,	head,	4 25 .. 5 50	6 50 .. 6 75	1 00 .. 2 87	.. .. ..
Cows and Calves,		33 00 .. 55 00	30 00 .. 57 00	18 00 .. 40 00	35 00 .. 46 00

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